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CONTENTS.

		Page
Wolfram Production		211
Colorado Smelter's Strike		211
Copper Stocks		211
Mint Charges on Silver Refining		211
Railroad Rates on Coal		212
Mine Haulage		212
The World's Silver Production		212
New Publications		213
Books Received		213
Correspondence		213
Lights in Mine Surveying	T. Lane Carter	214
Mining in Ontario		214
* An Atlin Lake Nugget		215
The Buffalo Hump Mining Camp, Idaho	Charles L. Whittle	215
Imports and Exports of Iron and Steel		216
Recent Decisions Affecting the Mining Industry		216
The California Meeting of American Institute of Mining Engineers		217
Salt Production in Siberia	F. Thiess	217
* Mechanical Mine Haulage		218
Manganese Mining in Brazil		219
The Progress of Electro-Chemistry in 1898	H. Borns	220
* The Re-lighting Marsaut Mine Lamp		221
Questions and Answers		222
* Patents Relating to Mining and Metallurgy		222

* Illustrated.

Personal..... 224
Obituary..... 224
Societies and Technical Schools..... 224
Industrial Notes..... 224
Trade Catalogues..... 225
Machinery and Supplies..... 225

Mining News.

United States:
Alaska..... 225
Arizona..... 225
Arkansas..... 225
California..... 225
Colorado..... 226
Idaho..... 227
Iowa..... 227
Michigan..... 227
Minnesota..... 227
Missouri..... 227
Montana..... 227
Nevada..... 228
New Jersey..... 228
New Mexico..... 228
Pennsylvania..... 228
South Dakota..... 228
Tennessee..... 228
Utah..... 228
Washington..... 229
West Virginia..... 229

Foreign:
Africa..... 229
Asia..... 229
Australasia..... 229
Canada..... 229
Mexico..... 230

Markets.

Coal:
New York..... 230
Birmingham..... 230
Pittsburg..... 230
Shanghai..... 230

Slate:
New York..... 230

Chemicals and Minerals:
New York..... 231
Liverpool..... 231
Valparaiso..... 231

Metals.

Iron:
Pig Iron Production..... 232
Birmingham..... 232
Buffalo..... 232
Cleveland..... 232
Philadelphia..... 232
Pittsburg..... 232
New York..... 233

Gold and Silver Prices, Statistics, Imports and Exports 233
Foreign Coins 233
Copper..... 234
Tin..... 234
Lead..... 234
Spelter..... 234
Antimony..... 234
Nickel..... 234
Platinum..... 234
Quicksilver..... 234
Minor Metals. 234

Assessments. 238

Dividends. 238

Meetings. 238

Mining Stocks.

Market Reviews:
New York..... 235
Boston..... 235
Salt Lake City 235
San Francisco. 235
London..... 235
Paris..... 235
Toronto..... 235

Stock Quotations.
New York..... 236
Philadelphia..... 236
Valparaiso..... 236
Boston..... 236
Colo. Springs. 236
Spokane..... 236
Denver..... 237
San Francisco 237
Toronto..... 237
Salt Lake City 237
Rossland, B.C. 237
Mexico..... 237
Paris..... 237
London..... 238

Mining Co.'s.
List of..... 239

Current Prices:
Minerals, Chemicals, etc..... 240

Advt. Rates.. 20

Advertisers' Directory.....15, 17, 18, 19

In the "Engineering and Mining Journal" for July 22d, page 125, the substitution of a comma for a period made us say that the production of wolfram or tungsten ore in the United States was 78,865 tons. Of course such a figure was out of all proportion, and most of those who noticed it doubtless saw the typographical error. The correct figure was 78·865 tons. The production of tungsten is increasing, but it will be a long time before 78,000 tons will be called for.

Our attention has been called to the error by an esteemed correspondent in Great Britain, who comments on our record of mineral production as follows: "Your summary is interesting, especially the first paragraph. I suppose you will beat us in coal very soon; but we would sooner be beaten by our American cousins than by any other nation."

The Smelters' Union in Denver on August 14th voted to declare the strike off. This action was not desired by the leaders, but was not unexpected, in view of the fact that the great majority of the men understood that there was really nothing to be gained by holding out, and had lost all expectation of carrying their point. The managers of the American Smelting and Refining Company took no active steps toward reopening their Denver works; they simply announced their terms and waited for the men to come to them. This policy has proved entirely successful, and it is probable that by the close of the present week the Denver smelting plants will be in full blast. Those at Leadville have been running for some time.

The eight-hour law in Colorado seems to have made nothing but trouble during its brief life. Already many of the Leadville miners are asking to go back to the old ten-hour law basis, in place of the system which was adopted by most of the companies there—the eight-hour day, with time taken only from the beginning of actual work at the breast or in the bottom of the shaft. The miners in other places also have asked for a return of the old system.

The considerable apparent increase in the European stocks of copper during the second half of July was not altogether a surprise to the trade, and some operators look for a further increase during the first half of August. How much of the nominal gain was real it is rather difficult to determine. We do not question the honesty of the reports made by the well known firms of metal dealers which publish the statistics; but they necessarily depend on the figures furnished to them, and it is not a difficult matter for operators who are interested to manipulate the stocks to serve their own purposes. It is doubtful whether the reported gain of 4,500 tons in visible supplies represents an actual addition of that quantity of metal to the total available for delivery. The activity in ship-building and other mechanical work in which copper is required has been very great almost all over Europe. There have been reports of decreased consumption in France and Germany, but a well-informed correspondent in our columns (August 5th, page 154) seriously questions these as far as Germany is concerned, and apparently with good reason. As to supplies, there has been a decrease in the exports from the United States, where the home consumption has limited shipments; and this can not have been fully made up by the increased receipts from Australasia and Chile, though the gain in supplies from those countries has been considerable. We do not doubt, as we have repeatedly said, that the supplies of copper will equal the demand, and very probably exceed it before long, so that a fall in prices may be expected. This will take some time, however, and for the present the position of the metal is stronger than the London speculators are ready to admit.

It is semi-officially announced from Washington that the Bureau of the Mint will shortly order a reduction to be made in the charges for refining silver at the Government mints and assay offices. Just what the reduction will be is not stated, but it is said that the new charge will be about 0.75 cent an ounce. The quantity of silver refined by the Government establishments during the fiscal year ending June 30th last was 9,515,627 ounces, or a little over 9 per cent. of the total refined in the United States. Of this quantity the New York office received 7,042,879 ounces; Philadelphia, 2,158,798 ounces; San Francisco, 286,823 ounces, and New Orleans, 27,127 ounces.

The avowed object of this proposed change is to secure a larger quantity of silver for treatment in the Government establishments; but there seems to us no good reason for this. The Government is not buying silver; it has on hand already a sufficient supply to meet all the probable requirements for coinage for some time to come. The private refiners are abundantly able to meet all the requirements of business, and no demand exists anywhere for an increase of the Government work. It implies an extension of the work of the mints and assay offices beyond their legitimate object. The private refiners, who have a large capital invested in their business, will object strongly to this new arrangement, and they have every right to do so. The

Government bureau which undertakes to thus enter into competition with citizens engaged in any business is exceeding its legitimate powers, and such a step should meet with prompt opposition and reproof. It is another instance of the pernicious tendency to extend the function of Government to interfere with private business, which should be constantly watched for and repressed as far as possible.

The Chesapeake & Ohio Railroad, which has a very large coal traffic from West Virginia, both to the seaboard and to interior points, shows by its report for the year ending June 30th, 1899, extremely low rates on that traffic. These rates are, indeed, the lowest we have seen on coal, and serve to explain in part why West Virginia coal can compete successfully with that from other regions 200 miles nearer the seaboard. For years the company has been studying the traffic closely and improving its road and equipment, meeting lower rates by reducing costs and increasing its train-loads. What the changes have been in eight years is shown by the following table, which contrasts the average rates received on coal in 1892 and 1893 with those in 1898 and 1899; and also the average tonnage hauled per train mile:

	1892.	1893.	1898.	1899.
Rate per ton mile, seaboard coal, cts.	0.344	0.327	0 259	0.221
" " " " other coal, "	0.479	0.456	0.333	0.355
Average train-load, tons	250	282	379	425

As the coal furnishes a load only one way, the average quantity carried by coal trains last year was 850 tons. This is an extraordinary result, and exceeds that obtained by any other important railroad in the United States. It shows average train-loads 50 per cent. greater than lines of such heavy traffic as the New York Central and the Baltimore & Ohio. The nearest approach to it is the average train-load reported last year by the Norfolk & Western—a line with very similar traffic conditions—which was 355 tons.

How low the rate on coal is can be appreciated when we say that the Chesapeake & Ohio last year carried a ton of seaboard coal 4.5 miles for 1 cent; and delivered a ton of coal 400 miles from the mine for 88.4 cents. It is certainly a credit to the management that with these low rates there was a profit on the business.

The substitution of mechanical traction for animal or human power in mines is continually making progress. The advantages of such changes are now fully recognized wherever the mine workings are extensive enough to warrant the necessary expenditure. As coal mining is generally carried on upon a larger scale than metal mining, and coal mines generally cover a much greater extent, it is naturally in such mines that the question has been most studied, and the most work has been done. The two chief classes into which mechanical traction is divided are the endless cable, and locomotive haulage; the second class being again subdivided, as steam, compressed air or electricity is used to operate the locomotives. Cable traction in this country is used in comparatively few mines, and in them chiefly in adits and slopes, where the mine is entered in one of those ways; so that locomotive traction has been most studied.

Obviously the steam locomotive is admissible only in the largest mines, and in those which are provided with abundant ventilation. There is also a strong objection to the steam locomotive in fiery mines where the danger from gas is great. The advantages of this engine are its comparative simplicity, its completeness in itself, and the fact that no costly power house nor compressor plant is needed.

In most mines the choice is between compressed air and electric locomotives. Both have their advocates and both present advantages which are worth considering, but which cannot be enumerated here. The introduction of compounding in the air locomotive has increased its efficiency and made possible the utilization of a much higher percentage of the theoretical power than heretofore, as is shown in the comparison made on another page. The two rival systems, in fact, are so closely matched that in most cases very careful consideration will be needed, and the local conditions will finally determine which system shall be adopted.

THE WORLD'S SILVER PRODUCTION.

The predictions so freely made a few years ago by those not familiar with the conditions controlling production, that the silver production of the world would rapidly decrease, and might be expected to fall to a point of comparative insignificance, have not by any means been realized. Notwithstanding its lower price ,the output of the white metal has been maintained at a high level and in 1898 showed the very respectable increase, as compared with 1897, of 266,314 kilograms, or 4.7 per cent. Taking the production for eight years past, we find that it has been as follows:

	Kilograms.		Kilograms.
1891	4,479,649	1895	5,667,691
1892	5,935,315	1896	5,496,178
1893	5,339,746	1897	5,663,305
1894	5,554,144	1898	5,929,619

1 kilogram = 32.21 troy ounces.

It will be seen that the production of silver in 1898 was larger than that of any previous year since 1892, and approached very nearly what was then considered the extraordinary production of that year. This great output was absorbed by the world's markets without difficulty, and at average prices not greatly below those of previous years. In fact, the price of metal rose toward the end of the year, and has been well maintained since its close.

At the time the predictions above referred to were made, we stated our reasons for doubting their force, and expressed the belief that the production would continue large. The reasons for this belief—the correctness of which time has proved—may be very briefly stated. A large quantity of silver is and will be always saved as a by-product in connection with other metals, as gold, copper and lead; silver will continue to be largely used for ornamental and household purposes and in the arts, its position as a valuable and decorative metal being too firmly established by custom to permit a change; and finally, a very large part of the world's population still uses silver as its chief monetary metal—to say nothing of the quantities used for subsidiary coinage in even those countries which adhere most closely to the gold standard.

In the accompanying table we give in detail the silver production of the world in 1898 and 1897, as collected for and presented in "The Mineral Industry," Volume VII. The figures are chiefly obtained directly from the producers, or from official records; careful estimates being

SILVER PRODUCTION OF THE WORLD. (*a*)

Countries.	1897. Troy Ounces.	1897. Kilograms.	1897. Commercial Value.	1898. Troy Ounces.	1898. Kilograms.	1898. Commercial Value.
North America:						
United States	56,457,392	1,756,004·0	$33,755,815	58,763,127	1,827,723·0	$34,670,245
Canada	5,558,446	172,885·6	3,323,395	4,434,085	137,913·3	2.616,110
Mexico	54,052,647	1,681,212·0	32,318,078	56,859,076	1,768,501·0	33,546,855
Central American States	1,623,575	*e* 50,500·0	970,735	1,623,575	*e* 50,500·0	957,909
South America:						
Argentina	328,262	*e* 10,210·0	196,508	328,262	*e* 10,210·0	193,675
Bolivia	10,723,790	333,609·9	6,411,754	11,000,000	*e* 342,138·5	6,490,000
Chile	4,613,974	*d* 143,514·0	2,758,695	4,613,974	*e* 143,514·0	2,722,245
Colombia	1,646,080	*e* 51,200·0	985,191	1,646,080	*e* 51,200·0	971,187
Ecuador	7,716	*e* 240·0	4,610	7,716	*e* 240·0	4,553
Peru	1,876,590	*c* 58,368·0	1,121,013	1,876,590	*e* 58,368·0	1,107,188
Europe:						
Austria	1,286,836	40,026·0	769,399	1,286,836	*e* 40,026·0	759,233
Hungary	861,298	26,790·0	515,071	861,298	*e* 26,790·0	508,166
France	2,583,285	80,351·0	1,544,547	2,583,285	*e* 80,351,0	1,524,133
Germany	14,405,834	448,068·0	8,613,248	15,450,583	*a* 480,578·0	9,115,744
Greece	1,099,376	*f* 34,133·0	657,317	1,303,136	*f* 40,533·0	768,850
Italy	1,456,813	45,313·0	871,028	1,456,813	*e* 45,313·0	859,520
Norway	151,748	4,720·0	90,730	151,748	*e* 4,728·0	89,531
Russia	280,132	8,713·0	167,490	278,515	8,663·0	164,324
Spain	4,211,781	*b* 131,000·0	2,518,224	7,362,350	*b* 229,000·0	4,343,786
Sweden	71,315	2,218·2	42,639	71,315	*e* 2,218·2	42,176
Turkey	49,029	1,525·0	29,314	49,029	*e* 1,525·0	28,927
United Kingdom	249,156	7,750·0	148,970	249,156	*e* 7,750·0	147,002
Asia:						
Japan	2,508,067	78,009·0	1,499,580	2,508,067	*e* 78,009·0	1,479,759
Australasia	17,077,248	531,174·1	10,210,487	17,179,683	534,360·0	10,136,013
Totals	182,080,914	5,663,304·8	109,866,521	190,641,163	5,929,619	$112,478,287

(*a*) Production of refiners. (*b*) Reported by the *Revista Minera;* it is doubtful whether the silver contained in ores and silver-lead is included in the report for 1897. (*c*) As reported by the Lima mint. (*d*) Silver bullion exported. (*e*) Estimated. (*f*) The production of Greece is mostly refined in other European countries and consequently has not been included in the totals.

made in a few cases, where there is no official information to be obtained. The figures are given in Troy ounces as a matter of convenience, but are in all cases reduced to metric measure. In many countries the reports are made in kilograms originally, and in a few years, we trust, all will be returned by that standard. The values given are the commercial values, as established by the curent prices in the New York and London markets.

The United States in 1898 was the largest producer, with a total of 58,763,127 ounces, or 1,827,723 kilograms; Mexico, following closely with 1,768,501 kilograms. No other country approached either of these two, Australasia, which was the third producer in rank, reporting a total of only 534,360 kilograms. It is probable that Bolivia was the fourth actual producer, though Germany gives a quantity greater by 138,440 kilograms. The German official statements, however, give the fine silver output of the refineries, and a considerable proportion of that was obtained from imported ore and base bullion. Our own production, as given in the table, includes only that from ores mined in the United States. In addition to that quantity our smelters and refiners turned out in 1898 a total of 39,784,000 ounces, or 1,237,560 kilograms, obtained from foreign ores and bullion.

It is to be noted that by far the greater part of the world's supply of silver now comes from the North American continent; which in 1898 furnished 3,784,637 kilograms, or 63.5 per cent. of the total. The South American countries, which in the sixteenth, seventeenth and eighteenth centuries sent to Europe quantities of silver previously unprecedented, now hold a very subordinate place, their aggregrate output last year being 605,671 kilograms, or 10.2 per cent. of the world's total. Bolivia, Peru, Chile and probably Western Argentina have great reserves of silver ores, and may increase their production largely in the future.

The European production calls for little remark. Outside of Germany, which is referred to above, the only important producer is Spain, where nearly all of the metal is obtained from silver lead ores.

The only reporting producer in Asia is Japan. There is reason to believe that some silver is obtained in China, but it is quite impossible to determine the quantity. No silver is reported from Africa. The Australasian output is chiefly from the Broken Hill and neighboring mines of the Barrier Range in New South Wales; though some comes also from New Zealand.

We have had from time to time a renewal of the useless discussion over the cost of producing silver. It is entirely impossible, as most of our readers know, to determine any fair average, as the costs of production will differ so widely, even in mines in the same district. It is sufficient to say that if an increased production is drawn out on an average price of 58¼ cents, it is highly probable that, in the great majority of cases, silver can be put upon the market for a little less than that sum.

The present indications are that production is still increasing, and that the output for 1899 will be still greater than that of 1898.

NEW PUBLICATIONS.

"La Bicylette, sa Construction et sa Forme." Par C. Bourlet. Paris, France, "Le Genie Civil," 1899. Pages, 225.

This is a very full and detailed account of the development of the bicycle as we have it to-day. Particular attention is given to the construction of the various parts of the machine and their gradual evolution from clumsiness to lightness and strength. In this respect the book is the best work on the bicycle that we have yet seen. It is written with French clearness and much of the text is distinctly popular in tone, particularly the hints on choice of a wheel, riding, etc., but a chapter on ball bearings will tax the mathematical knowledge of the mechanical engineer. As the book is intended for French readers many of the bicycles and parts described are of English or French make. It is interesting to see, however, how well Yankee ingenuity is recognized and how high a reputation American machines have established abroad.

"The Journal of the Canadian Mining Institute." Vol. II., 1899. Ottawa: Edited and published by the Secretary. Paper; pages, 283; with maps, photo-engravings and diagrams.

This volume contains the proceedings, papers and reports presented at the general meetings, minutes of Council, revised list of members, etc. The papers are characterized by a commendable conciseness, which enables the publication of 23 separate monographs in this small volume. The general tone of these papers is essentially practical, and the Canadian Mining Institute is to be congratulated on its manifest vitality and the public spirit of the writers who have presented these communications, as well as upon the interest displayed by the members and the profession generally who will profit by them.

The announcement is made that the next meeting will be in British Columbia, a tour having been planned which will include visits to many important mining centers. The Eastern members are expected to leave Montreal September 1st, and the round trip may be accomplished by the 26th of the same month.

"Transactions of the Association of Civil Engineers of Cornell University." Vol. VII., 1898, 1899. Ithaca, N. Y.; published for the Association. Pages, 160; Illustrated.

This pamphlet contains the constitution, by-laws, list of officers and members, president's address, and a series of interesting papers, among which may be mentioned Major T. W. Symond's article on the Engineer Corps in the United States Army; Mr. N. Cumming's essay on the Use of Concrete in Dams (with a description of the Cold Spring Dam); G. W. Rafter, on Stream Flow in Relation to Forests; Wm. M. Turrance, on Maintenance of (railroad) Way; H. Goldmark, on Locks and Lock-gates for Ship Canals; H. S. Jacoby, on Two-hinged Arch Ribs; G. E. Duckham, on Standpipe and Pump-house Foundations; D. Molitor, on Masonry Construction, and the same author in another paper on the present status of knowledge of this form of construction. One of the most timely subjects discussed is the Abolition of Grade Crossings, as exemplified at Buffalo, N. Y. This is a question which should be taken up by the railroad managers, rather than the legislators, although there is a possibility some of amelioration from law. The self interest of the railroad officers points directly to over and under crossings; and in a thickly settled community the expense of first cost and additional gradients would be wiped out by the saving in legal and compromise expenses in the course of a few years. In other parts of the country it might be too expensive to apply the French and English (or, to speak broadly, the European) system of fencing in and bridging or tunneling. But the experience of Buffalo is a good example to all American cities.

A noteworthy feature of these Cornell engineers' papers is the brevity and the clear, direct, professional style.

"Iowa Geological Survey, Volume IX., Annual Report for 1898, with Accompanying Papers." Samuel Calvin, State Geologist; H. F. Bain, Assistant Geologist. Des Moines, Iowa; Published for the Survey. Cloth, quarto; pages, 572; with maps and illustrations.

At the close of the season covered by this report (1898) the Iowa State Geological Survey had finished the mapping in 33 counties, comprising an area of 18,936 square miles. This volume contains reports upon the geology of the following counties: Carroll, by H. F. Bain; Humboldt, by T. H. McBride; Story, by S. W. Beyer; Muscatine, by J. A. Udden, and Scott, by W. H. Norton. Besides these there is a monograph on the artesian wells of the Belle Plaine area, by H. R. Mosnat, and a statistical report on the mineral production, by S. W. Beyer.

In the last mentioned paper the value of the mineral production of Iowa in 1898 is stated as follows: Coal, $5,123,187; clay (clay products), $2,057,022; stone, $563,586; lead and zinc, $43,784; total, $7,787,579. This does not include the value of the gypsum output. Coal shows a slight falling off both in tonnage and value as compared with 1893; clay products gained nearly $250,000, the highest since 1894 (a large production of "burnt clay" for railroad ballast being reported); the stone industry was prosperous, with better prices than in 1897; lead and zinc, as in other states, attracted more attention, and though the output is still small it is increasing.

In the geological reports of individual counties it appears to be the aim to make each complete and final. These are issued separately in pamphlet form, and each has its geological map and other illustrations. All the work of the Iowa Geological Survey is conscientiously done and a large part of it has a direct economic bearing.

BOOKS RECEIVED.

In sending books for notice, will publishers, for their own sake and for that of book buyers, give the retail price? These notices do not supersede review on another page of the Journal.

"The Annual Statistics of Manufactures in Massachusetts; 1898. Thirteenth Report." Prepared by the Bureau of Statistics of Labor, Horace G. Wadlin, Chief. Boston, Mass.; State Printers. Pages, 312.

CORRESPONDENCE.

We invite correspondence upon matters of interest to the industries of mining and metallurgy. Communications should invariably be accompanied with the name and address of the writer. Initials will only be published when so requested.
Letter should be addressed to the MANAGING EDITOR
We do not hold ourselves responsible for the opinions expressed by correspondents

The Huntsman Copper Mining Company.

Sir—A letter in your issue of August 12th criticises the prospectus and property of the Huntsman Copper Mining Company, doing us, we believe, a great injury. We propose, with your consent, to present a statement showing the exact condition and prospects of our mine, which will, we believe, establish the true character of the claims.

This statement will be sent to you in ample time for the next issue.

W. R. Weeks,
President Huntsman Copper Mining Company.

New York, Aug. 17, 1899.

The High Five Mining Company, Colorado.

Sir: I would like to call your attention to the High Five Mining Company, a concern which seems to be better known in New York than in Leadville. From what I can learn these people are operating more extensively on the New York Stock Exchange than anywhere else. Postmaster Alfred of this city has received a number of letters this week asking information about this company, which does not appear to be very well known here. The company claims to be working the Only Chance Mine on Rock Hill, but this property—outside of a little work done by the Lessee Pressley Phillips—has been idle most of the time in the past year. It is owned by J. T. Stewart of Council Bluffs, Iowa, but he has not been working the claim. The letters written here state that the company has just paid a dividend of $15,000, but I cannot learn from anyone where this money came from. It was certainly not taken out of the Only Chance Lode this year, and as to the High Five Mining Company, I have been unable to find anyone here who knows anything about the company.

J.

Leadville, Colo., August 12, 1890.

The Boston & British Columbia Mining Company.

Sir: I have just read the letter of Mr. H. Mortimer Lamb in your issue of June 24th regarding the Boston & British Columbia Mining Company. About one year ago I sent a practical man to examine this Standard Group (not having the time to spare to go myself). There had been some little development work done and a sample from the Carbonate Chief (a very large ledge) assayed: Gold, $2.40; silver, 2 oz.; copper, none. Concentrates from above sample assayed: Gold, $4; silver, 2.12 oz.; copper, none. Sample of the Standard Ledge, 3 ft., assayed: Gold, $2.80; silver, 2.50 oz.; copper, 12.8 per cent. Another sample of the Standard Ledge, 6 ft. wide, assayed: Gold, trace; silver, 1.80 oz.; copper, 2.10 per cent.

There has been some leaching in the ledge and native copper is found in small pieces in crevices, as is often the case near the surface in many prospects. The only encouraging feature is, the one copper assay of 3 ft. of ore in the tunnel; and I offered to do some development for a half interest, thinking that it was not a property to pay any cash for.

Last December, while in Revelstoke, I was approached by Mr. Crosby, of the firm of Beach & Crosby, mining brokers, but not generally known in Revelstoke, and was requested to join them to furnish means for Mr. Crosby to go to Boston (where he claimed he had a strong pull) to make favorable reports, etc. In consideration they would insure me good position, interests, etc. Upon inquiring about this firm I declined their very liberal offer by mail, not caring to meet the gentlemen again. The fore part of March I found here a letter from the principal owner of the Standard Group requesting me to make a strong report to Boston people, who would ask for it; another from Mr. Crosby with the same request and a third letter from H. E. Bullard, 53 State Street, Room 317, Boston, Mass., inquiring as to what I knew of the Standard Group. I gave him all the details and particularly called his attention to the fact that the Standard Ledge was located just below a glacier in an almost inaccessible position and in an undeveloped district, and that the transportation depended upon the navigation of the Columbia River above Revelstoke, to say nothing of the deep snows for nine months in the year, together with the rough and elevated locality. I also called his attention to the fact that Crosby & Co. were quite unknown; in fact, I sent the letters received from the Standard owners and Crosby to him. Since that time I had heard nothing more until I saw Mr. Lamb's letter in the "Engineering and Mining Journal." The prospects may be worthy of development, but are not suitable for flotation.

Otto Abeling.

Moscow, Idaho, Aug. 6, 1899.

LIGHTS IN MINE SURVEYING.

Written for the Engineering and Mining Journal by T. Lane Carter.

To have an efficient means of illumination is a great help in mine surveying, for it saves much time and worry, if no difficulty is experienced in sighting with the transit and reading angles. There are many lights used for this purpose. The small head-lights, used so frequently in the coal regions of Pennsylvania, are sometimes used by surveying corps in the Transvaal mines, but the objection to them is that you have to carry a bottle of kerosene about the mine with you, which becomes extremely inconvenient when you have to climb about narrow stopes. Electric lamps also are used, but the objection to them is that they are too cumbersome. They give by far the best light and are excellent in windy drafts, where you have lots of room. Acetylene lamps have also been suggested for the use of the mine surveyor. The method we use on the Crown Deep Mine we find answers very well. Each man carries in his pocket several candles, enough for the day. If we go into an especially windy place, we carry a large kerosene lamp, holding enough oil to last the day. The angles are read by means of a candle light and a magnifying glass. For sighting the fine string, hanging from the stations in the roof, we have an excellent method, one which will give satisfaction to every one. Those who have tried it know how annoying it sometimes is to take a sight through the instrument on a thin string, carrying a plumb-bob at the end, if a bare candle is used to illuminate the string. After straining your sight for some time, you angrily call to the back-sight man to hold the candle closer to the string. He does so, and gradually succeeds in burning the string in two, thereby causing delay and adding fuel to your temper. This can be easily avoided, the string seen at a great distance and with perfect distinctness, if a piece of ordinary white tracing cloth is held behind the string. If the candle is now brought behind the tracing cloth, you get an evenly diffused light, and the string is seen as a dark line against a bright background.

I trust any mine surveyor who reads this, and has had trouble in illuminating his lines, will try this method, for I can assure him it will save much time and worry. Of course we do not have any inflammable gases in our mines on the Witwatersrand, which is a great help.

MINING IN ONTARIO.

From Our Special Correspondent.

Figures recently issued by the Ontario Bureau of Mines show that during the six months ending June 30th of the present year the quantity of iron ore mined in the Province was 10,788 tons, worth at the mines $20,604. Most of this was magnetite from Hastings County and points along the Kingston & Pembroke Railway. There are now two furnaces in blast in Ontario, a coke furnace at Hamilton, which began operations in 1896, and a charcoal one at Deseronto, blown in on January 25th, 1899. Together for the half year the two furnaces have produced 30,090 tons of pig iron, valued at $409,158, having smelted 14,452 tons of Ontario ore, 35,510 tons of ore imported from the United States, and 5,135 tons of mill cinder. The product for the whole of 1898 was 48,253 tons, worth $530,789. The increase in production is therefore about 50 per cent. A second charcoal furnace is projected by the Canada Furnace Company at Midland, and is expected to be in operation this year. Its capacity will be 60 tons per day.

The production of bullion from Ontario gold mines in 1898 was $275,078. For the first six months of 1899 the value of the output was $224,995, and there is a good prospect of the year's production going up to $500,000.

The capacity of the stamp mill at the Hammond Reef Mine is being increased from 10 to 40 stamps and at the Olive from 10 to 25. The latter mine was formerly regarded as working on a narrow, but rich vein. It now develops that this narrow vein is in reality but the pay-streak of an enormous felsite dike from 100 to 150 ft. wide, which carries gold across its full width. The additional stamping capacity is intended to enable the plant to cope with this large low-grade proposition.

The terms of the recent sale of the Sultana gold mine have been made known. The English company pays £450,000, and the former owner, Mr. J. F. Caldwell, retains a large interest. It is said the number of stamps will be increased from 30 to 100, a new shaft sunk and the main shaft put down to a depth of 700 ft. The mine is believed to contain a large quantity of somewhat low-grade ore.

For the first half of the current year there was smelted 88,123 tons of copper-nickel ore, yielding 10,741 tons of matte estimated to contain 3,224,000 lbs. of nickel and 3,334,000 lbs. of copper, the total value of which, computed at the selling price of matte at the works, was $392,093. This was mainly, if not altogether, the product of the mines and works of the Canadian Copper Company at Copper Cliff.

MINERAL PRODUCTION OF BOSNIA.—The official mineral statistics of Bosnia and Herzegovina show that last year the production comprised, in metric tons: Fahlore, 583; copper ore, 3,785; iron ore, 58,532; chrome ore, 458; manganese ore, 5,319; zinc ore, 10; iron pyrites, 240; brown coal, 271,183; salt, 14,496 tons. The metallurgical production included also in metric tons: Quicksilver, 4; copper, 148; pig iron, 15,336; castings, 941; open-hearth ingots, 8,669; malleable iron, 8,510 tons. The total number of miners employed was 3,910, and there were four fatal accidents during the year.

SAULT STE. MARIE CANAL TRAFFIC.—The report of the engineer in charge gives the total freight passing through the Sault Ste. Marie Canal from the opening of navigation up to July 31st at 10,433,875 short tons; which compares with 9,568,599 tons in 1898, and 7,872,695 tons in 1897. The number of vessels reported this year was 8,599. Of the freight this year 8,547,607 tons were east-bound and 1,886,268 tons westbound. The mineral freights included 6,474,735 tons iron ore (5,778,122 tons in 1898); 392,523 tons anthracite coal (193,535 tons in 1898); 1,227,038 tons bituminous coal (1,630,568 tons in 1898); 45,343 tons copper (62,246 tons in 1898). The falling off in copper was due to the fact that considerable shipments were made by rail before the opening of navigation, owing to the unusual pressure for early deliveries.

MINING PROGRESS IN NEW CALEDONIA.—United States Commercial Agent P. E. Wolff at Noumea, New Caledonia, writes under date of June 24th as follows: "During the past fiscal year certain noteworthy changes for the better have taken place in my consular district. A Mr. Bernheim, owner of extensive mining property in the northwest of the colony, recently completed a narow-guage line of railway 40 kms. in length. The rails and rolling stock were imported from France.

"Two other lines are in course of construction, one of 40 kms., on the east side of the island, at Kouaona, and one of 30 kms. close to Bourail, a small town north of Noumea. A line of 150 kms., to be built by the local govermnet, will probably be commenced in February next, the contract for which I hope will be secured by a United States firm. A fifth line, in the extreme north, is in contemplation.

"The mining industry is in a flourishing condition; nickel, chrome, cobalt and copper ores are being raipdly extracted. From every quarter of the globe orders for minerals are received by the leading firms, and I am informed by the director of Le Nickel, at Noumea, and the general manager of the firm of L. Ballande & Co., that they have taken orders from the United States, and shipments are being prepared for that country.

FRENCH MARKET FOR AMERICAN IRON.—United States Consul Brittain writes from Nantes, July 10th, 1899: "There have recently been many inquiries for the names of the leading firms in the United States that manufacture various kinds of machinery. A number of sales of American machinery have been made during the past year. Heretofore, consderable machinery used by the shipbuilders of Nantes has been purchased in England. English manufacturers have two advantages over those of the United States—first, their nearness to this market; second, the advantages accruing from the minimum tariff rate. For machine tools weighing over 1,000 kgs. the maximum duty is 15 fr., the minimum 10 fr. per 100 kgs.; weighing from 250 to 1,000 kgs., maximum 20 fr., minimum 16 fr.; small tools, weighing less than 250 kgs., maximum 70 fr., and the minimum 50 fr. per 100 kgs. The difference on structural iron or that used for shipbuilding is not so great, the maximum being 6 fr. and the minimum 5 fr. The recent augmentation in prices and the scarcity of a visible supply of structural iron in this part of France makes this an opportune time for the American manufacturer to invade this market. The shipbuiders of the Loire have come to the conclusion that if the American iron manufacturers can sell iron in England and in English colonies, it is at least worth while to get our prices.

"I believe if the American manufacturer were on the ground with prices and terms he could capture some orders. There are three shipyards at Nantes, where there were constructed last year 42 vessels, varying in tonnage from 3,000 downward. At St. Nazaire, 30 miles west of Nantes, there are extensive shipyards, where some of the largest vessels in the service of the Compagnie Generale Transatlantique were built. About two weeks since, a large war vessel for the Government of Japan was launched at St. Nazaire. American manufacturers of structural iron would do well to correspond with Julien Lanoe, of Nantes, an extensive dealer, who is anxious to obtain American prices on bar, structural and plate steel and iron."

AN ATLIN LAKE NUGGET.

The accompanying engraving is made from a photograph, for which we are indebted to our correspondent, Mr. W. M. Brook, who is now in the Atlin Lake Country in British Columbia. It shows the largest nugget so far found in that region. The hand in which it is held will enable the reader to estimate the size very nearly.

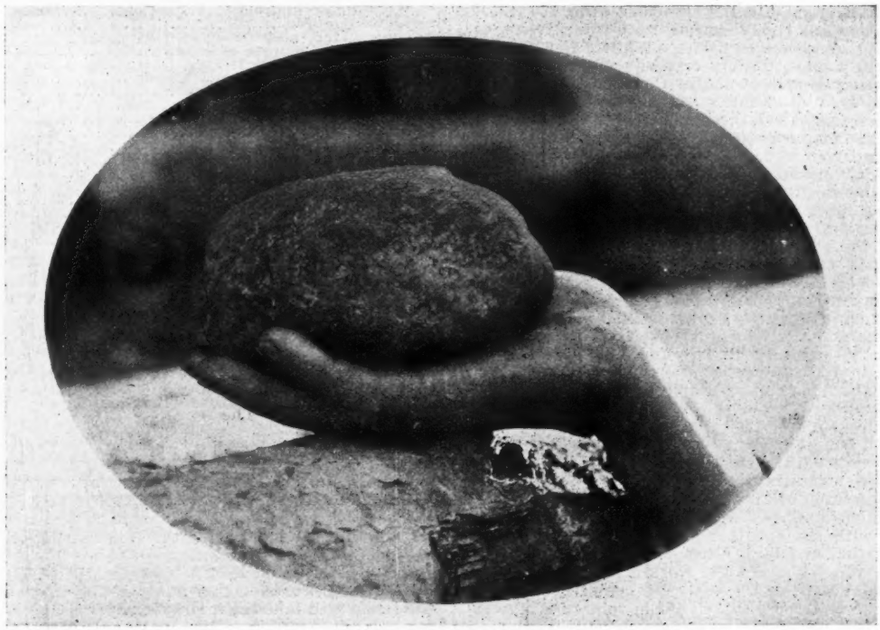
This nugget was found on Spruce Creek; it was taken out 126 ft. below the surface. Its weight is 84 oz., and the contents in pure gold are estimated at 50 oz. It was found on July 8th, 1899. Its value is about $1,000.

THE BUFFALO HUMP MINING CAMP, IDAHO.

Written for the Engineering and Mining Journal by Charles L. Whittle.

The Buffalo Hump Camp in Idaho belongs in the Robbins Mining District and is bounded in part by the Elk City, Dixie, Warrens and Florence camps. At the present time this camp can be most readily reached from Grangeville, Idaho, some 50 miles to the southwest. A trail has just been completed from that village giving the shortest route. Other routes from Grangeville are by the wagon road to Elk City and Badger and then by trail to Fish Lake on the east end of the Hump country; and by way of the Florence road to Adam's Camp, and then by trail up Slate Creek. From the south the camp can be readily reached, although by a longer route, from Weiser, Idaho, to Florence and Adam's Camp and up Slate Creek as before.

The country about the Hump, including most of the locations to date, is about 8,000 ft. above sea level. The majority of the claims are on a rather gentle slope to the west, but the more eastern claims are on precipitous slopes along steep-sided gulches and sharp, buttress-like ridges. Above the general level of the camp the Hump and Tri-pyramid mountains rise immediately on the north and to the south, 10 miles away, are the sharp peaks along Crooked and Salmon Rivers.



GOLD NUGGET FROM ATLIN LAKE DISTRICT, BRITISH COLUMBIA.

This new mineral belt is quite narrow, the more promising properties being included in a zone not over 1 mile wide, east and west, and extending about 5 miles north and south. The mountains near the camp and the gulches leading therefrom are densely wooded, but the trees are small and there is little timber in the immediate vicinity suitable for heavy square-set work. Water power is adequate within a reasonable distance, which may be transmitted to the mines electrically. The region is one of enormous snowfall, and no month in the year is without its snow storms. At this writing (July 28th) not a little of the open country has scattered snow drifts, and in the woods one can still ride many hundred feet over the snow banks.

From the highest parts of Buffalo Hump Mountain and its subordinate peaks, glaciers have recently radiated down the neighboring gulches for a distance vertically estimated at 2,000 ft. The work performed by the glaciers was limited, but the ice tongues moving down the valleys and their accompanying torrential streams have no doubt been the means of transporting much of the highest placer gold far below its normal resting place. I am accordingly inclined to believe that the recent numerous placer locations about the Hump will not prove of value. Most of these locations consist of meadows or marshes which represent the accumulations of detritus in small glacial lakes. Such lakes abounded in the glaciated area and were the result of terminal moraines dumped across the many streams draining the country. Placer deposits of this kind can only contain, for the most part, the gold liberated since the period of ice action, which must be very small. There are still several glacial lakes remaining, even at elevations of 8,000 ft., which add a picturesque feature to the landscape.

The rocks of the Hump Camp are in part metamorphic and in part igneous. The geological history of the region in general is as follows: A series of sandstone, shales and limestones, which were penetrated sparingly by basic and acid granitic dikes, have been converted into flinty and micaceous quartzites, biotite, hornblende and muscovite schist and gneisses and coarse granular marbles by mountain folding along axes striking approximately north and south. Irregular lenses and crumpled stringers of coarse hornblende, or a mixture of hornblende, epidote and iron garnet represent no doubt calcareous beds in the orginal sedimentary series. Minor folds of these rocks occur with axes pitching northerly, but, as a rule, the lamination of the metamorphics dips easterly at angles of 30° to 40°. Through these rocks the granite, which forms enormous areas to the south, sent a maze of intersecting dikes or apophyses, and at the same time included fragments of the older rocks in great abundance. These dikes are of several ages and vary in size from mere threads to many feet and take on all phases between aplites on the hand and coarse pegmatites on the other. The dikes have been shot through the older rocks in every direction without regard to structural weaknesses due to banding or jointing. Cliffs of biotite schist may be seen cut with dozens of dikes making as many angles with the lamination, all with sharp, smooth walls. The granite itself is a medium-grained stone, when far removed from the bounding metamorphics, and contains both biotite and muscovite. Macrascopically it is a true granite and resembles closely that occuring at Concord, New Hampshire.

The area of granite included in this camp is located near the border between the massive granite on the south, containing no inclusions, and the great metamorphic areas north and east of here about Newsome and Elk City. After the injection of the granite into the older rocks, mountain building forces operated again along the same north and south axis and served to develop a north and south rift in the granite, which, about the Hump, is all imperfect lamination. This lamination is brought out by weathering and universally dips easterly at about the same angle as the accompanying schists and gneisses. There have also been developed two well-marked sets of regional joint planes which traverse the granite and associated rocks in N. 50°-70° W. and a N. 50°-70° E. directions. Considerable faulting has taken place along these sets of joints, often resulting in a limited development of schistosity parallel to the same. Along the northeasterly set of joints and to a less extent along the northwest set, there have been introduced small quartz veins in great abundance. These veins are the oldest in the camp and vary in width from mere films up to several feet, the great majority being about 1 in. across. There are often several hundred square feet of granite and metamorphics which show a perfect net work of such veins, often so abundant as to form a stockwerk. These small veins seldom appear mineralized, although they afford the basis for a great number of locations. Such veins characteristically lack permanence, either horizontally or vertically, and a plane of erosion 10 ft. lower than the present one would undoubtedly show an equal number of similar veins, but occupying different positions.

The cause of the Buffalo Hump excitement was the discovery of a large quartz vein now known as the Big Buffalo claim. This vein has been traced interruptedly in a nearly true north-and-south direction through the Merrimac and Orofino properties for a distance of 3,000 to 4,000 ft. Its nearly vertical attitude makes it agree in position with nearly all the prominent veins in camp. It traverses the granite and metamorphics, cutting straight across them regardless of structure or attitude, following the axial direction of the folding. The north-and-south veins do not follow any prominent shear zone, nor is there a strong tendency to faulting in this direction, although slight faults are not unusual. It is true, however, that with geology of this kind it would be difficult to detect general and pronounced faulting.

The Big Buffalo Vein can be traced brokenly south through three

claims and is lost along the line of the east-and-west valley of Sheep Creek. At the point of discovery this vein is reported to be 40 ft wide. I am unable to verify this report, as the parties who first bonded the Big Buffalo, Messrs. Clark & Sweeny, have covered a great part of the vein at the discovery with the dump, and the workings are not accessible owing to water. At the widest part visible, the vein shows some 30 ft. wide, appears rusty, somewhat porous and no doubt was well mineralized. Traced southward, the vein rapidly thins out and is inconspicuous on the Orofino. The ores of the Big Buffalo in the order of their frequency, as determined by an inspection of the dump and outcrops are: Iron pyrite, galena, copper pyrite and telrahedrite. On the Orofino the oxidized portions of the vein show free gold and the presence of a limited amount of sphalerite in other parts of the camp makes it probable that zinc is also present in this vein. The Big Buffalo was worked last winter by Clark & Sweeny. A 10 by 12 ft. shaft was sunk to a depth of 72 ft. and 100 ft. of drifting and crosscut work were driven. A steam hoist was installed, run by a vertical boiler, and drilling was done by steam. At the present time no work is being done. The recent decision that the discoverers were grub-staked by a man named Rice and accordingly that a portion of the property belongs to him promises to lead to more legal difficulties and the continued shutdown of the mine.

The Big Buffalo lies along the northwest part of the camp. At the southern end of the camp and to the east of the Big Buffalo the Jumbo Claim is located. This vein outcrops on a southward sloping cliff of granite and at the discovery is 14 or 15 ft. wide, striking north and south and standing nearly vertical. Traced northward, it loses this width to 2 ft. in a few hundred feet, and to the south it disappears 300 ft. from the discovery, although it may come in again. The vein at all points observed appears to have been highly mineralized. On the Jumbo it has been opened by two adits, the lower one being 300 ft. long. The fresh quartz on the dump is richly charged with iron pyrites, considerable tetrahedrite and some copper pyrite. While I am unable to say what values this vein carries, the ore certainly appears to be the best in camp. This property is also owned by Clark & Sweeny. Hand power only has been employed up to date.

Another prominent claim is called the Crackerjack, situated in the eastern central part of the camp. There are several veins on the property. A tunnel has been driven by hand power something over 100 ft., which crossed a 2-ft. vein very soon after getting under cover. This vein was not followed, but the tunnel was driven in till another 2-ft. vein was met. This has been followed about 30 ft., and the present breast shows about 1 ft. of high grade ore. The veins on this property strike and dip with the other prominent veins in the camp—north and south, standing nearly vertical, and the ores are the same. It is reported on good ground that the Crackerjack has been recently sold to Clark & Sweeny for a sum approaching $100,000.

Other well-known claims are the St. Paul, the St. Louis, the Monte Cristo, the San Francisco and the Concord. The ore bodies on these properties strike and dip with the Big Buffalo and Jumbo veins. They are no doubt equivalent in age and possess the same character of ores and types of quartz gangue. It is not possible to give the number of ore-bearing, north and south veins in the camp at the present time. There are, however, at least four. These do not parallel one another throughout their courses, but lie in a more or less imbricated fashion. Their persistent north-and-south strike indicates that they occupy lines of weakness or movement traversing the granite and metamorphics which have a deep-seated origin, to be correlated no doubt with the deforming forces which laminated the sedimentary series and developed the north-and-south rift and laminated in the granite.

Owing to recent glaciation and high altitude, the zone of oxidation throughout the camp is very thin and the workings will at once uncover concentrating ores. I have been greatly disappointed to note the scarcity of free gold in the oxidized portions of the veins; and the sudden and universal thinning out of the prominent veins, their unequal pockety mineralization and the strong tendency for the veins to pass from well defined walls into a ramifying mass of small stringers within a short distance has filled me with apprehension as to the future of the camp. It is, however, much too early to sound a note of alarm, as a judgment of the real character of the veins and their mineral contents would best be deferred until the ore bodies shall have been thoroughly exploited.

Very little work is being done in the camp at the present time. New locations are receiving their discovery pits, but labor on the claims located last year is limited to desultory work on a few claims like the St. Paul and the Fortune. Nearly all the older locators have their properties bonded to Grangeville or Spokane parties and all hope they will be able to make a quick turn on the strength of the Big Buffalo and Jumbo before it shall be necessary to do this year's assessment work.

The disappointingly few prospectors and mining men in the camp are divided between the several communities represented by three rival town-site boomers. Surveys are being rushed to patent these townsites and favorable tunnel sites are receiving attention.

GOLD DREDGING IN NEW ZEALAND.—The New Zealand "Mines Record" for June says: "In the Dunstan-Wakatipu subdivision of the Otago Mining District, over which Warden McCarthy exercises jurisdiction, there were no less than 192 applications awaiting the preliminary hearing last month, 75 being set down for hearing at the Cromwell Court. This large increase in business is distinctly traceable to the increased attention now being paid to gold dredging. Most of the Molyneux River, from the Tallaburn to Cromwell, as well as considerable stretches of the Manuherikia, Kawarau and Clutha Rivers, were under application, while the attention of investors and speculators was also directed to the Nevis, Lindis, Dart and Cardrona Rivers, and the adjoining flats. Whether many of the areas applied for are likely to prove remunerative in these and other districts where dredging areas are now so eagerly sought after should be diligently inquired into before investors risk their capital."

IMPORTS AND EXPORTS OF IRON AND STEEL.

The following table, compiled from the monthly summary of the Bureau of Statistics of the Treasury Department, gives the quantities and values of leading articles of iron and steel imported into the United States in the fiscal year ending June 30th, 1899; also the quantities of iron and steel imported in the fiscal year ending on June 30th, 1898:

Imports—Long tons.	1898.	1899.
Pig iron, spiegel, and ferro	25,640	23,316
Scrap iron and scrap steel	1,502	4,642
Bar iron	15,177	19,975
Iron and steel rails	529	624
Hoop, band, or scroll	31	9
Steel ingots, billets, blooms	13,759	10,625
Sheet, plate, and taggers'	2,634	1,893
Tinplates	76,635	48,431
Wire rods, iron or steel	17,679	15,451
Wire and wire rope	2,374	2,356
Anvils	347	233
Chains	79	162
Total	156,386	127,717

In addition to the imports in the table there were imported cutlery, machinery, etc. (quantities not given), valued at $5,376,517. The total value of our imports of iron and steel in the fiscal year ending June 30th, 1899, amounted to $12,098,239, against $12,626,431 in the previous year; a decrease of $528,192.

The following table gives the quantities and values of our exports of leading articles of iron and steel in the fiscal year 1899, compared with the quantities exported in 1898. The table has been compiled from the summary of the Bureau of Statistics:

Exports—Gross tons.	1898.	1899.
Ferro-manganese	8,403	495
All other pig iron	228,465	299,271
Scrap and old	60,195	91,985
Bar iron	4,770	10,520
Band, hoop or scroll iron	1,552	3,015
Bars, or rods of steel	16,864	32,974
Steel wire rods	14,469	25,220
Billets, ingots and blooms	16,100	43,242
Cut nails and spikes	14,424	14,647
Wire nails	10,221	22,872
All other nails, tacks	1,923	2,107
Iron plates and sheets	4,057	6,744
Steel plates and sheets	12,215	50,308
Tinplates and terne plates	9	91
Structural iron and steel	30,586	49,069
Iron rails	2,769	11,776
Steel rails	229,783	266,089
Wire	61,185	96,069
Total	717,990	1,026,494

In addition to the products above given, there were exports, of which the quantities are not given, but of which the values were as follows: Locomotives, $4,728,748; agricultural machinery and implements, $12,432,197; hardware, $4,898,752; tools, $2,943,620; other manufactures of iron and steel, $58,986,053. The total value of our exports of iron and steel in the fiscal year ending June 30th, 1899, amounted to $106,148,148, against $78,016,617 in the preceding year; an increase of $28,131,531, or 36.1 per cent.

The movement of iron ore was not large; the imports were 269,113 long tons, and the exports 31,412 tons in the fiscal year 1899, against 352,455 and 11,537 tons in 1898. The falling off in imports was chiefly due to the fact that no Cuban ore was available.

RECENT DECISIONS AFFECTING THE MINING INDUSTRY.

Specially Reported for the Engineering and Mining Journal.

ASSIGNEE OF LESSOR NOT COMPELLED TO BUY IMPROVEMENTS.—A provision in a mining lease that at the expiration of same the lessor will take the improvements, paying a fair valuation for them, is not binding on his assignee.—Etowah Mining Company vs. Wills Valley Mining and Manufacturing Company (25 Southern Reporter, 720); Supreme Court of Alabama.

RIGHTS OF MORTGAGEOR WHO IS STOCKHOLDER.—The owner of certain mining property conveyed it to a corporation, in which he became the largest stockholder, taking back a mortgage for the purchase money. Subsequently the company entered into a contract with a third person for the sale of the property, by which it agreed, on the making of stipulated payments, to convey the property to such third party free of incumbrance. The court held that such facts did not prevent the former owner and principal stockholder, as against the purchaser, from foreclosing the mortgage; it further appearing that the purchaser had failed to make the payments agreed upon, which would have enabled the corporation to have discharged the mortgage.—Blair vs. Silver Peak Mines (93 Federal Reporter, 332); Circuit Court of the United States.

DECLARING FORFEITURE OF MINING LEASE.—A lease of coal lands, reserving a royalty on the output as rent, and requiring the lessee, under penalty of forfeiture, within a specified time to commence the work of developming the coal interest in the lands, by opening shafts through which the coal can be mined and removed, and by opening mines so as to enable the coal to be mined and transported to the market, requires actual mining operations to be commenced within the time specified; and the mere erection and equipment of shafts and mines by which coal may be mined are insufficient. Where such lease declares a forfeiture for failure to develop and operate the mine, and authorizes the lessor to re-enter without demand or notice, a demand on the actual tenant to comply with the lease is not a prerequisite to the lessor's right to declare a forfeiture. Where the owner of the lands is in possession, no demand for surrender on forfeiture of the lease is required. Nor is such forfeiture waived by the owner's mere silence for some time after he might have declared a forfeiture of the lease for failure to perform.—Island Coal Company vs. Combs (53 Northeastern Reporter, 452); Supreme Court of Indiana.

THE CALIFORNIA MEETING OF THE AMERICAN INSTITUTE OF MINING ENGINEERS.

The following circular is issued by Secretary R. W. Raymond, under date of August 10th: "1. As announced in Circular No. 3, the seventy-seventh meeting of the Institute will be held in San Francisco, Cal., beginning September 25th, 1899. Hotel headquarters, the Palace Hotel; rates per day to the Institute, $1.50 to $3, on European plan; $2 extra on American plan. Secretary of local Committee of Arrangements, Mr. Edward H. Benjamin, 331 Pine Street, San Francisco. A banquet will be given to the Institute by the merchants and manufacturers of San Francisco, and receptions will be given at other places in the State. Further particulars, aside from those stated below, will be furnished in the programme of the local committee.

"2. With regard to the special excursion arranged for the accommodation of members and guests from the East, the following additional particulars are now possible. The special train will leave Chicago by the Chicago & Northwestern Railroad at 5.30 o'clock p. m. on Saturday, September 16th. If a sufficient number of persons who have secured their places in the special train from Chicago, and who desire to go together from New York City, will promptly notify Mr. Theodore Dwight, at the New York office, arrangements will be made to have one or more of the special cars attached to the 1 p. m. New York Central train of September 15th. Railroad and sleeper fares to Chicago are not included in the excursion rate of $225 already published, but a considerably reduced excursion rate to Chicago and return can be secured for a party of sufficient size. Particulars on this point and all changes of schedule or other matters of interest to the excursionists will be furnished by a personal letter to all those who have secured places in the special train. From the responses already received, it is now clear that the special excursion will comprise a sufficiently large number of members to insure its interest and success, while, on the other hand, it will be possible to accommodate a considerable number of ladies and guests accompanying members. Great care has been taken in the selection of cars, porters, stewards, ladies' maids and cooks for the special train; insuring complete comfort and luxury for the party. The restriction announced in Circular No. 3 giving the members only the first opportunity of securing places in the special train is hereby rescinded; and applications will be received for guests accompanying members, up to the limit of the accommodation available. First come, first served. A considerable number of members have already applied for places for ladies accompanying them, and it is certain that many ladies will be in the party. Further applications should be made at once to Mr. Dwight, and the requisite advance of $50 for each person should accompany the application. The names of all persons should be given, and it should be stated whether they will go from New York or join the special train at Chicago, or en route. After August 15th it will be necessary to deposit with each application the whole sum of $225 for the round trip from Chicago. But of this deposit $175 will be returned if the parties notify this office by September 10th of their inability to go; of the remaining $50 the whole or part will be, in such cases, returned subsequently, as may be practicable. If the accommodations thus set free by the failure of the original depositor to use them can be sold, for whole or part of the route, to others, the amount returnable will be correspondingly greater, amounting, possibly, to the whole. But, as to this, no guaranty can be given.

"For the benefit of members not acquainted with the climatic conditions which may be encountered, it is recommended that both light and medium clothing and wraps be taken. Part of the trip will be very dusty, and old-fashioned linen dusters will be highly serviceable.

"The itinerary given in the following paragraph will be seen to contain an important addition to the scheme already announced, namely a trip to the Grand Canyon of the Colorado, which can be taken by those who can afford the extra time (about four days) involved, at a special reduced rate. If a sufficient number desire to take this trip, the special train will be divided at Flagstaff, Arizona, and one part will go on direct to Chicago, while another part awaits, at Flagstaff, the return of the Grand Canyon party. To those who have never made this trip, the undersigned can offer the personal assurance that the Grand Canyon presents, beyond comparison, the most impressive and memorable scenery on this continent. The trip from Flagstaff is a stage ride of about 65 miles, over a picturesque plateau, and the accommodations for travelers are comfortable, though not luxurious. The extra cost of this trip cannot be precisely stated at this time, but it is safe to say that it will not exceed $40, including the cost of holding part of the train at Flagstaff. Those who desire to include this extra excursion, the date of which is given below, are requested to notify Mr. Dwight immediately.

"The following provisional itinerary is announced for the special train. Future changes will be promptly announced to those who have secured places in this train:

"September 15th.—Headquarters car, and probably one sleeper, leave New York at 1 p. m. by the New York Central Railroad.

"September 16th.—Special train leaves Chicago at 5.30 p. m.

"September 17th.—Leave St. Paul by Great Northern Railway at 8 a. m.

"September 18th.—A stop of several hours will be made at Great Falls, Mont., to visit the works of the Boston & Montana Copper Company and the Montana Smelting Company.

"September 19th.—The day will be spent in Butte, Mont., in visiting copper mines and smelting works.

"September 20th.—The concentrating and smelting works at Anaconda will be visited, and the train will leave at night for Spokane, Wash., by the Northern Pacific Railroad.

"September 21st.—Spokane will be reached early in the afternoon, and the train will leave for Portland, Oregon, about 6 p. m. by the Great Northern.

"September 22d.—Arriving in Portland in the evening, the train will continue to San Francisco by the Southern Pacific Railroad.

"September 24th.—The train will arrive at San Francisco.

"September 25th-28th, inclusive, will be occupied by the sessions of the meeting and by local entertainments.

"September 29th.—Special trains will leave in the evening for California mines, visiting Grass Valley, Nevada City, Oroville, Jamestown, Sonora, Dutch Flat, Redding Sutter Creek, Jackson, New Alameda, etc.

"October 7th.—The party will reach Raymond, Cal., where the train will be left for the visit to the Yosemite Valley.

"October 12th.—Los Angeles will be reached.

"October 13th (probably at a late hour), the party will reach Bisbee, Arizona.

"October 14th.—Visit to the Copper Queen Mine.

"October 15th.—Arrive at Phoenix, Arizona.

"October 16th.—Arrive at Flagstaff, Arizona, the point of departure for a visit to the Grand Canyon of the Colorado. Those who take this trip will be delayed about four days, and a part of the train will wait for them. Those who continue their trip without stopping will reach Chicago by the Santa Fe route on October 19th.

SALT PRODUCTION IN SIBERIA.*

By F. Thiess.

The production of salt in Siberia is very far from adequate to the demand, and it is found necessary to import considerable quantities of the commodity from European Russia (via Odessa and Vladivistok), from Mongolia and other countries. In the ports on the Pacific seaboard, foreign salt is imported free of duty.

In such districts of Siberia as possess workable salt deposits, the placing of the salt on the market is often greatly hindered by the bad state of the roads, when there are any, and, as a consequence, prices rule high. It is true that the State has established in various localities salt storehouses, whence the inhabitants may supply their needs at a comparatively moderate cost. Even so, however, prices vary greatly from place to place.

In Western Siberia, the only local sources of salt are the innumerable salt lakes scattered over the Government of Tobolsk, in the southwest of the Government of Tomsk, and in the provinces of Akmolinsk and Semipalatinsk. In very hot summers, salt deposits on the lake shores to a thickness of 4 in.

As to the northern portion of this basin, in the Barabinsk and Kulundinsk steppes, no one lake yields common salt free from the admixture of other compounds, such as sodium sulphate. In the southern portion of the basin, on the other hand, in the waterless steppes of Akmolinsk and Semipalatinsk, the lakes yield a very pure salt, immediately available for edible purposes. Among the most notable of these lakes is that of Karyakovsk, which extends over an area of 9 square miles; the portion covered by salt deposits measures about 4 square miles, and in the middle of the lake the thickness of the salt layers exceeds 40 in. In 1896 there were 11,834 tons of salt taken from this lake, but this is by no means the greatest amount produced in one year. Moreover, the official statistics represent only about a quarter of the actual output, as the Imperial authorities allow the Kirghiz nomads who range these southern steppes to take from the lakes as much salt as they choose.

Mention must also be made of the Borovie and Burlinsk lakes in the southwest of the Government of Tonsk, in the so-called "salt steppe." The total length of the shores of Lake Burlinsk exceeds 19 miles; the inhabitants of the neighboring country, after selling their grain at Pavlodar, usually take salt as a return freight, and the commodity finds its way thence far into Eastern Siberia.

Glauber's salts are got from the Great and Little Marmishansk lakes in the same Government (Tomsk), 125 miles southwest of Barnaul. The total area of these two lakes is about 2½ square miles, and the layers of sulphate attain a thickness of 2 ft. even at a couple of hundred feet from the shore. The annual production averages 1,640 tons, part of which goes to the soda works at Barnaul, part is used for smelting ores in the Altai, and the remainder in glass manufacture.

Eastern Siberia is rich in common salt, which is mainly got from rock salt deposits. These occur, however, in sparsely populated districts, and are at present worked only on a small scale. In the Governments of Yenisseisk and Irkutsk, brine springs were tapped at Tumanshetsk (20 ft. deep), Troitsk, Ust, Kut, etc. Numerous bitter-salt lakes occur in the first named Government; while in Yakutsk, in the Vilyuisk District, are three rock salt deposits.

The author tabulates the annual statistics of salt production in Siberia from 1887 to 1896 (both years inclusive). From these it is seen that the Siberian output averages 35,000 tons. The labor statistics show that in 1894, in the salt works of the whole of Siberia, 1,581 workpeople were employed, most of whom were convicts whose good conduct had secured them a mitigated form of penal servitude.

A FOUNTAIN OF QUICKSILVER.—The London "Electrican" of August 5th says: "The spectacle of between four and five tons of mercury circulating continuously in an ornamental fountain is sufficiently rare to offer special attraction to students of waves and ripples or of the splash of a drop. At the Greater Britain Exhibition, at Earl's Court, one such fountain has recently been erected, and it is continually in operation, we believe, in the vestibule facing the ornamental lake. Streams of mercury fall from a height of several feet into a circular basin of considerable size, affording especially favorable conditions for the study on a large scale of the physical properties of this liquid. It is interesting, for example, to watch the formation of splashes and drops, and to follow the course of waves over the extensive surface of the mercury pond, mentally comparing these effects with what takes place in a water fountain. Instantaneous illumination coupled with a stroboscopic apparatus for viewing the surface would render its study even more attractive."

*Abstract of paper in "Zeitschrift fur das Berg, Hutten und Salinenwesen im Preussischen Staate;" from "Transactions" of the Institution of Mining Engineers.

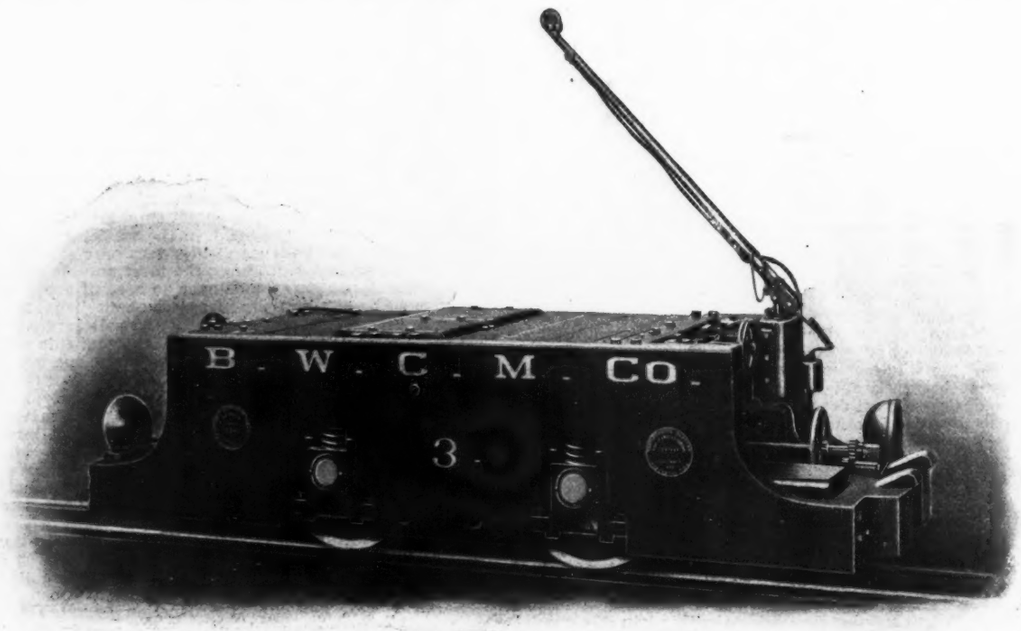
MECHANICAL MINE HAULAGE.

The increase in the demand for mechanical means of haulage in mines has led in recent years to many improvements in methods of traction. The most important change in recent years has been the introduction of the electric locomotive, which quickly made a place for itself.

The steam locomotive has been used to some extent for haulage in coal mines, but the objections to its use will readily be understood. The difficulty of disposing of the smoke and gases, even where the ventilation is good, and the danger from sparks in fiery mines are among the chief drawbacks. Nevertheless its use continues in some of the larger collieries in Pennsylvania and elsewhere. The requirements of a mine and its limitations in size of passages have caused some ingenuity to be exercised in building these engines. One pattern, which is a type of the majority now in use, was illustrated in the "Engineering and Mining Journal," April 8th, 1899, page, 413.

The great and chief advantage of the steam locomotive is that it is complete in itself, and independent of all outside sources of power. No expensive power-house nor air-compressor need be put up, and an accident to machinery affects one locomotive only, and not the whole haulage system. This is not an overwhelming advantage, however, as experience proves that electric and compressed air plants can be operated with very few break-downs, if they are properly constructed.

The electric locomotive can be built in very compact form, and adapted to mine galleries of almost any size large, except the very smallest. The usual custom in mines is to use a bare copper wire to carry the current. Some danger is involved in this, of accidents to men from contact with the wires; but on the whole such troubles are fewer in number than might have been expected. There are several types of locomotives designed for mine use. One of the latest is illustrated in the accompanying engraving, which shows its construction quite plainly.



Baldwin-Westinghouse Electric Mine Locomotive.

The engine from which the illustration is taken is of the Baldwin-Westinghouse type, and was built at the Baldwin Locomotive Works in Philadelphia for the Berwind-White Coal Mining Company. The motive power is furnished by two 50 H.-P. single reduction motors, one geared to each axle. The driving wheels are 30 in. in diameter, and the axles are spaced 4 ft. apart between centers. The total weight, ready for service, is 25,800 lbs., all of which is carried by the drivers, giving an average of 6,450 pounds carried on each wheel, and 86.1 12,900 lbs. on an axle. The journals are unusually large, being 4 in. and 6 in. in diameter, and carefully protected against dust. There is a rheostatic controller.

The extreme height of the locomotive is 41 in.; the width, 55½ in.; the length, 13 ft. 8 in. The length could probably be reduced, if it should be desirable. The draw-bar pull is 4,300 lbs. at 8 miles an hour on a level, and this has been exceeded in practice. The engine is rated at 100 H.-P.

The power is taken through the trolley-wheel shown from the conducting wire overhead. The cover boxing in the motors is chiefly used to keep out dust and dirt. The gauge of track is 3 ft.; but electric locotives have been built for a 2-ft. gauge, with an extreme width of 3 ft. over all.

The motors generally used on mine locomotives are of the slow speed street car type, and the rheostatic type of controller is also generally used.

The most formidable rival of the electric locomotive for mechanical traction in mines at present is the compressed air locomotive. This machine has proved its efficiency in many places, and is worth careful attention from mine managers. The simple type which was first introduced and has been generally used, was described and illustrated in the "Engineering and Mining Journal," May 27th, 1899, page 623. The latest improvement introduced is the use of the compound type of engine in order to secure the benefit of the greater expansion. The locomotive shown in the accompanying illustration is of this class. It is a four-cylinder compound engine of the Vauclain type, built by the Baldwin Locomotive Works in Philadelphia for the Philadelphia & Reading Coal and Iron Company.

In this engine the air is carried in the storage tanks—which take the place of the boiler on a steam locomotive—is at a pressure of 600 lbs. The working pressure at which it is supplied to the cylinders is 200 lbs. The high-pressure cylinders are 5 in. and the low pressure 8 in. diameter, both being 12 in. stroke. The valves are of the balanced piston type. The piston rods of the high and low pressure cylinders are connected to a single cross-head on each side. The driving wheels are 24 in. in diameter, and are spaced 4 ft. apart between centers, the short wheel base enabling the engine to take very sharp curves.

The air tanks are three in number, the main storage tanks being 31 in. diameter, one 13 ft. 7½ in. and the other 11 ft. 4½ in. long. The third is 8 in. diameter and 7 ft. 4 in. long. These tanks are of 9/16 in. steel plate, the heads being 11/16 in. thick.

The limits of size in this engine were: Width, 6 ft. 4 in.; height, 6 ft. 6 in.; length, 14 ft. Its general appearance is shown in the engraving. It will be noted that the cylinder coverings are corrugated; this is for the purpose of making the dissipation of heat as rapid as possible. The total weight of the engine ready for service is 22,000 lbs., all of which is carried on the drivers.

This engine has hauled 32 cars weighing 1 ton each up a grade of 1.66 per cent. The first locomotive of this type built proved so satisfactory that several others have since been built.

A paper recently read before the Engineers' Club of Philadelphia by Mr. H. K. Myers gives the following statements as to this type of engine:

"The economy of the compound over the simple expansion of this type is, first, that the full expansive effect of the air is realized; second, on account of the large combined cylinder surface, new energy is imparted to the air from the surrounding atmosphere, and, third, in the practical use of the locoomtive.

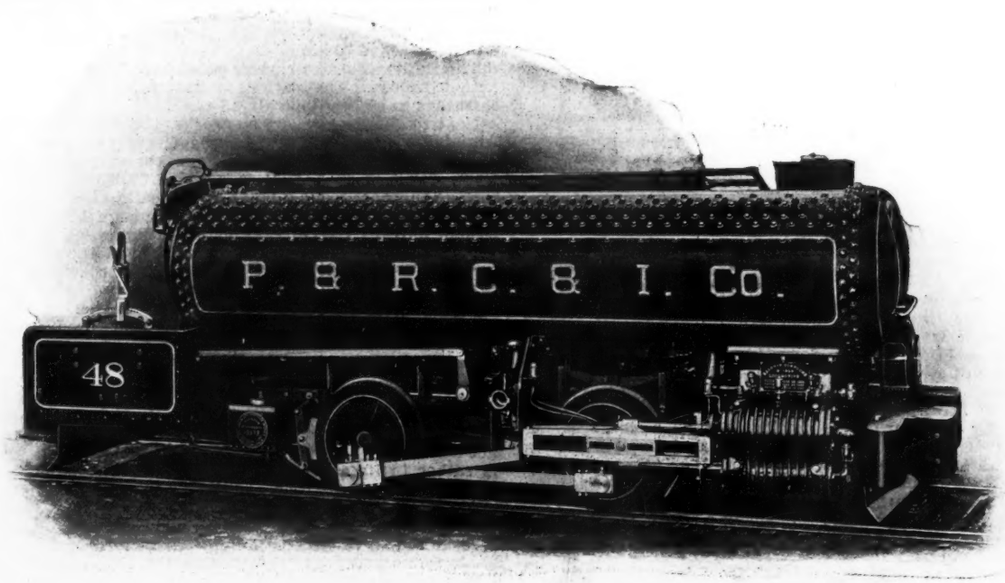
"In making the calculations for air consumption the various cut-offs are considered, while in the use of the locomotive the engineer invariably cuts off later in the stroke than necessary and hence exhausts at high pressure with simple cylinders, but with compound this exhaust is caught in the low-pressure cylinder and utilized. The best practical example of this saving, which is fully 50 per cent., is shown in the use of compressors of same size and make. Where the simple cylinders are used, it is impossible to keep a supply of air, whereas with the compound the compressor is running half-speed most of the time and the pipe at maximum pressure. On account of the high pressure carried, many people are fearful of the results from explosions and go so far as to say that the factor of safety with such pressures should be greater than with low ones, but this is not the correct idea. These pressures are a maximum which it is difficult to maintain and almost impossible to exceed, hence the possibility for explosion is scarcely to be considered; while in low pressure it is easy to exceed and hence increase the possibility of explosion. It is, therefore, considered good practice to use a factor of safety of 3 in designing the storage tanks. In the compression of air it is impossible to get the ideal; hence in compressing 100 cu. ft. of free air we get practically 3 cu. ft. at 750 pounds, instead of 2 —the theoretic amount. If this air is expanded adiabatically, we will

have 75 ft. free air, or a loss of 25 per cent. It is customary to base calculations on adiabatic compression and expansion, but in the use of high pressures the errors are such that we must work with closer values if we desire reliable results.

"In order to show the working of a Vauclain compound air locomotive we will refer to the records taken at the Alaska Colliery of the Philadelphia & Reading Coal and Iron Company: On October 20th, 1897, the average of 12 trips was 26 empty cars, weighing 75,000 lbs., hauled upon average grade of 1.4 per cent. 2,400 ft. long with an average indicated horse-power of 49.4 and an air consumption of 114 cu. ft. at 200 lbs. pressure. In practice this would require 9 cu. ft. at 750 lbs., or 300 cu. ft. free air, and to compress the same would require approximately 95 H.-P., thus showing an efficiency of over 50 per cent. for the entire system. Had the air been compressed at 200 lbs., it would have only required 57 H.-P. to do the compressing and the efficiency would have been 87 per cent."

In the case given it required about 6 ft. free air per indicated horse-power; while 23 cu. ft. free air were required in hauling one (1-ton) car 1 mile on level track.

In fiery mines the compresed air locomotive seems to be the best form of haulage. Since it is necessary to have sufficient storage capacity to charge the locomotive almost instantaneously, it is customary to extend the pipe line sufficiently far into the mine so that it may act as a reservoir and at the same time afford charging stations at convenient plants.



BALDWIN COMPOUND COMPRESSED AIR MINE LOCOMOTIVE.

IRON PRODUCTION IN GERMANY.—The output of the German blast furnaces in June reached a total of 663,415 metric tons of pig iron. This was 15,153 tons less than in May, a difference much more than accounted for by the one day less in June; it exceeded the output in June, 1898, by 68,170 tons. For the half-year ending June 30th the production was: Foundry iron, 709,979 tons; forge iron, 840,544; Bessemer pig, 266,483; Thomas (basic) pig, 2,183,418; total, 4,000,424 metric tons. This is an increase of 401,683 tons, or 11.2 per cent., over the first half of 1898.

RESISTANCE OF ALLOYS TO CORROSION.—A series of tests covering a period of two years to determine the corrosion of certain alloys and metals has just been completed by the German Admiralty. The alloys represented in the tests were of the following characters, says the London "Engineer": Copper alloys rich in zinc, bronzes containing little zinc, pure tin bronzes, pure aluminum bronze, and iron aluminum bronze. The results were as follows: In the experiments on atmospheric deterioration it was proved that while iron bronze alloys suffered practically no injury in two years' exposure, those alloys which contain much zinc are more subject to decay. Of the specimens immersed in sea water in contact with iron, the iron, tin and aluminum bronzes showed very little deterioration. After from 2 to 2½ years' submersion, there was no marked difference in appearance, no loss of weight, and no reduction of strength. Iron bronze in contact with tin bronze showed a serious loss, one specimen, in two years' immersion losing two-thirds of its strength and four-fifths of its elongation, the material being partially destroyed by the dissolving out of the zinc. Similar effects were shown in the case of cast and wrought bronze. A wrought plate of iron bronze submerged in contact with a cast plate of the same material lost about 60 per cent. of its strength in two years. The conclusion deduced by the Admiralty from these tests is that the corrosive action between different metals depends upon their relative position in the electrical scale, the electrical relation of the metals in respect of corrosion being the same as in galvanic action. Thus pure aluminum bronze, which is practically proof against the corrosive action of sea water when in contact with metals which are electro-negative towards it, is quickly destroyed while in contact with electro-positive metals.

MANGANESE MINING IN BRAZIL.

A recent report from United States Consul H. W. Furniss at Bahia, Brazil, says that during the past six months another mine of manganese has been opened up in the State of Bahia, making at present two mines in operation. They are each situated about 26 km. from the town of Nazareth, near the village of Santo Antonio de Jesus, on the Nazareth tram road, a line of narrow gauge running from Nazareth to Amargosa, 79 km. distant. Nazareth is a town of 18,000 inhabitants, situated near the mouth of the Jaguaripe River, 102 km. from the city of Bahia. A small side-wheel steamer plies between the two places, making three round trips per week. The Jaguaripe River flows into an arm of the Bay of All Saints at a point nearly opposite the southern end of the Island of Itaparica. It is very narrow and tortuous, and is only navigable for small boats at high tide. The arm of the bay, if properly buoyed, would be navigable for ocean vessels almost to the mouth of the river. As it is now, they can get no nearer the manganese mines than Itaparica, about 18 km. from Bahia.

The deposits of manganese now being worked are separated only by a pack trail. The mines occupy the greater part of the crest of a hilly formation which stands about 375 ft. above the surrounding valleys. The railroad is at its southern base.

The first of these mines to be opened is owned by the Brazilian firm of Cardosa, Silva & Co., and is superintended by an American engineer. It has been in operation about two years, and ships regularly to the United States. It probably contains several times more ore than its neighbor to the south. The ore occurs in seams and pockets of various thicknesses, appearing in some places as surface outcroppings, though the greater part of it lies at a depth of 6 ft. or more below the surface, while quite a large seam has been discovered at a considerable distance below, following the steep incline of the hill. This is worked through a shaft sunk from the hilltop and tunnels running into the shaft from the hillside.

The ore is picked, blasted or pried out, and is loaded on ore cars and taken to a large shed, where women and children are employed to sort and break off enough of the poorer quality to make the balance marketable. Here it is loaded on larger ore cars and conducted by a gravity road winding in and out the hills for a couple of miles to the railroad, where it is loaded on cars. The empty ore cars are hauled by mules back to the mines.

The other mine, owned by a London firm and managed here by Anderson, Rowe & Co., shipped its first cargo May 10th, 1899. To work it, the earth is first removed and dumped over the hillside, which here almost amounts to a cliff. This exposes areas of manganese, which is then removed with a pick, crowbar, or blast and loaded on ore cars, which are run by gravity to a central station, where it is sorted as at the other mine. From this central station it is taken in automatic dump cars down an endless cable gravity road to the railroad platform, about 920 ft. distant, the full cars bringig the empty cars back.

After the ore has been loaded on the flat cars at the railroad platform, it is hauled to Nazareth, where it is loaded into small sailing craft, which take it down the river and up the arm of the bay to the sea-going vessel at anchor off Itaparica. The ships are often delayed by having to wait for the small vessels to bring the ore, as frequently there is little wind, and the small craft have to be poled the greater part of the 50 miles. The railroad, moreover, has not sufficient rolling stock to carry the ore with dispatch. It can not handle nearly as much ore as one mine can proluce. This causes the mines to accumulate a cargo at Nazareth prior to chartering a ship, and necessitates additional expense for wharfage rents. The road is supplied with American engines, passenger coaches and rails, but has mostly European freight cars.

The amount of ore available can not be estimated with any degree of accuracy, on account of the irregularity of its occurrence. The estimated yield of the mine just opened was first placed at 176,000 tons,

but more than this amount is now expected. The other mine is at present estimated to contain at least three times as much; so the total quantity in sight can be conservatively placed at 700,000 tons, with the chance of exceeding that amount. I am also informed that the land in the vicinity of these two mines has been prospected, and that manganese has been found, though poorer in quality and much less in quantity than that now being worked.

The ore as found is the hydrous oxide of manganese known as psilomelane. It is associated with schistose rock and averages about 42 per cent. of oxide of manganese. Its principal impurity, which affects its commercial value, is 11 to 12 per cent. of silica. It also has from 3 to 4 per cent. of oxide of iron; fractional percentages of lead, lime, sulphur, cobalt, phosphorus and copper; between 12 and 13 per cent. of alumina; and from 5 to 7 per cent. of combined water.

The ore is removed and loaded under the inspection of the State government, which exacts an export duty of 7 per cent. of the market value of the ore per ton. There is also the cost of feeding the three government guards during loading, the municipal taxes of Nazareth and San Antonio, railroad freight, lighterage to ship, wharfage at Nazareth, extra handling, mining and other expenses, which brings the actual cost of the manganese on board ship from 20 to 23 milreis per ton, the milreis to-day being worth 16¼c. in United States gold, though it must be remembered that the cost in milreis is almost invariable, while its equivalent in gold varies every day and often by sudden jumps.

The shipments of manganese ore from Bahia to the United States in 1898 were 878 long tons, all consigned to New York. In 1899, up to June 1st, the shipments were 1,522 tons to Baltimore and 3,000 tons to Philadelphia; a total of 4,522 tons. The current freight rate from Bahia to either of the ports named is $2.68 per long ton.

THE PROGRESS OF ELECTRO-CHEMISTRY IN 1898.

Written for the Engineering and Mining Journal by H. Borns.

(Continued from page 121.)

Zinc.—Forester and Gunther obtained clean zinc deposits from pure chloride and zinc anodes. After about six hours, however, the electrolyte became turbid with basic chloride, and the deposit spongy. The introduction of free chloride, suggested by Ashcroft, did not mend matters. A little free hydrochloric acid, however, does good service, provided the hydrogen which adheres to the cathode does not spoil the deposit. In their opinion spongy deposits are due to basic chlorides or sulphates, not directly to zinc hydride (Siemens and Halske), although hydrogen is indirectly injurious because it favors the formation of basic salts. The reactions are, however, very complicated, and it is not clear, why some oxidizing agents do good and others not. Cowper-Coles made the aluminum cathode revolve, and directed through the lead anode, which was perforated, a current of gas against the cathode; with air, oxygen, or in the absence of any gas, the deposit was spongy, with coal gas and carbon dioxide satisfactory.

For galvanizing iron, Cowper-Coles recommends a bath of 40 Zn SO_4 and 50 F SO_4, with lead anodes. He regards electrolytes containing cyanides and caustic alkalies as unsuitable.

Iron.—In Austria bank notes are printed from iron clichés, which must be very slowly deposited, an iron layer of 2 mm. thickness requiring six weeks. As a rule these clichés, from an iron and magnesium sulphate bath, have a thickness of only a few tenths of a millimeter, and are backed with copper, from a cyanide and sulphate bath. Such plates are more durable and give better prints than when a copper plate is steeled over. The former are therefore preferred, although they cannot be renewed, once worn, while the copper plates can easily be resteeled. In such iron Haber found gases, principally hydrogen, up to 112 volumes of the latter per volume of iron. Lenz had observed a maximum of 185 volumes of gas. The hydrogen iron is hard and does not rust easily. Heated in vacuo, it becomes soft and silvery white. Winteler found in a layer of iron, 0.08 mm. in thickness, 53.4 volumes of H, 15.5 of N, 15.1 CO, 12.7 CO_2, 3.3 H_2O. The thicker the iron deposit, the more gas it absorbs. Iron deposited from hot solutions is almost free from gas, however. The gases are given off when ether is poured on the iron, but not quantitatively. Such large volumes of absorbed gases react more energetically than gas bubbles, and this may be one of the reasons for the powerful effects of electrolysis.

Nickel.—Canning has built up large nickel anodes of carbon, and the small nickel cubes as they come from refineries.

Chromium.—Placet hardens metals by coating them with alternating layers of chromium and steel; chrome-steel he prepared by electroplating iron with chromium and cementing.

Plating Wood.—Burgess electroplates wood by preparing it with rubber or asphalt solutions and dipping it into silver solution; or by impregnating it with copper sulphate, dipping into an aqueous solution of sulphuretted hydrogen, winding with a copper wire, etc.

Electrolytic Cleaning of Metals.—Burgess has also written on the electrolytic cleaning of metallic surfaces as carried on at the University laboratory of Wisconsin; he generally uses carbon anodes in solutions of sodium chloride, although the chlorine becomes objectionable. Cowper-Coles suspends sheet iron from which scale is to be removed, in dilute hydrochloric or sulphuric acid, and reverses the current occasionally. C. Hering removes rust by wrapping the iron with an iron wire connected with a zinc plate. These methods are not new.

Actinic Effects.—The researches on actinic electricity have been put to practical use by Delvalez. If two silver or copper electrodes are unequally illuminated, currents are set up. Further, if different points of the same electrode are illuminated to a different degree, currents will flow in the surrounding electrolyte. A brass plate standing in a solution of lead and copper acetates deposits PbO_2 under these conditions. When the light falls through a photographic negative, the blacks will show yellow on the positive, the shades in various colors passing from dark green into yellowish red. The positive should be washed and dried immediately, but even then it is liable to change slowly. Stark placed a disc of silver in a solution of 1 Cu So_4 and 100 Zn SO_4. On the cathode side of the silver plate a deposit formed; at the center it was bluish, consisting essentially of zinc; near the edge red, being essentially copper; in between were zones of greenish yellow and reddish yellow. Such intermediate electrodes offer interesting phenomena.

Electric Furnaces and their Products—Calcium Carbide.—It has been observed that the electric arc when produced in a medium of calcium carbide, creates a hollow, from which vapors of Ca, CaO, C, CO escape; the CaC_2 is therefore evidently dissociated. Hence the following combined calcium carbide and iron process has been suggested. Cast iron is saturated with carbon and fused in the electric furnace; lime is added, and the current introduced through carbon anodes; phosphorus and sulphur escape and iron collects under the carbide crust.

Among the troublesome impurities of calcium carbide Moissan reckons ammonium sulphide, calcium sulphide which yields an organic compound not H_2S, and especially calcium phosphide. Vivian Lewes found as much as 2 per cent. of phosphuretted hydrogen in an acetylene, but as a rule the carbides are now practically free from phosphorus. From what phosphorus compound in the carbide this gas is derived, is not really settled; it may be phosphide. Theoretically 1 kg. of CaC_2 might yield 349 liters of acetylene; working with lime solution, previously saturated with acetylene, Moissan could not obtain more than 319 liters, however; 5 cu. ft. acetylene to 1 lb. of carbide is considered most satisfactory. The pure CaC_2 is colorless, like the carbides of potassium and sodium; the reddish hue of commercial carbide is, according to Moissan, due to iron.

The Bullier-Moissan carbide patent has been annulled by the German patent courts. The carbide industry, still slack in the last year, threatens to be overdone already.

Next to the new American works, the new plant of the Neuhausen Aluminum Company at Rheinfelden is the most important. The Acetylene Company, of Foyers Falls, contemplates emigration. On the Ebro, works of an annual capacity of 30,000 tons are projected. New carbide furnaces made a point of preheating the materials, certainly an important feature. But delicate mechanisms, flues planned for the purpose of burning the carbon monoxide, but which weaken the walls, are mistakes. Bergmann and others may be on the right track when they connect furnaces at different levels. The correct proportion between current density and electrode section deserves the most careful attention. Small carbide plants cannot pay. Aschermann mixes oxides and sulphides, pyrites, lime, coke, for the production of iron and carbide. Siemens and Halske have devised a strong carbide furnace closed below by a pyramidal plate, which can also be utilized for distillation.

Acetylene.—More is still written and talked about acetylene than about any other substance. Though the gas is better than its reputation, it certainly requires to be handled with great care. The gas is not poisonous in proportions of less than 4 per cent., and its vile smell is rather in its favor. In the early days, calcium carbide was made from bad coke and lime containing clay; at present acetylene is, or ought to be, fairly pure. The most dreaded impurity is phosphuretted hydrogen, which ignites spontaneously. If we prepare the two gases separately and mix them, no ignition will take place. But if the phosphide forms nodules in the carbide, there is danger. The phosphide is less rapidly decomposed by water than the carbide; a rush of PH_3 may, therefore, follow the generation of C_2H_2 and explosion ensue, provided there is air in the generator. Such cases have occurred. As regards the explosive compounds which acetylene is known to form under certain circumstances with copper and silver, experiments conducted at the Pintsch gas works, near Berlin, by Gerdes, demonstrate that no explosive compound was formed when compressed acetylene gas was in contact with various metals placed in steel cylinders which were exposed to the direct heat and cold of the atmosphere for nine months. There was corrosion, but not a trace of explosive substance.

Acetylene gas decomposes when heated up to 780° C. under evolution of heat. It polymerizes at about 600° C., forming benzol, styrol, anthracene, naphthalene, also hydrogen, etc. This polymerization takes place in the flame, and is a source of trouble. Hence the cry for a good acetylene burner.

In acetylene generators it is essential that the carbide should be dropped into an excess of water, and not a jet of water dropped on the carbine. The carbide must be drowned with water to be completely decomposed, and the decomposition continues for hours. If, therefore, a generator or lamp in which a little water is dripped on powdered carbide is opened after a while, when the reaction might be supposed to have ceased, an explosion may follow, and the residue may cause mischief when blown away.

(To be concluded.)

THE CYANIDE PATENTS IN NEW ZEALAND.—The Government of New Zealand last year bought the MacArthur-Forrest patents for that Colony, and mining companies using the cyanide patents are required to pay royalty. The official "Mines Record" for June says: "The royalties obtained by the Government for the use of the cyanide process exceeded £1,000 for the last financial year, and up to the present date about a fifth of the purchase money (£10,000) has been obtained. At this rate it should not take long before the cyanide process is free to all the gold mines which find it profitable to make use of it."

TITANIUM IN NEW ZEALAND.—The New Zealand "Mines Record" for June says: "The Government analyst has ascertained that practically the whole of the titanium in the Taranaki black sands that he has recently been analyzing is in the magnetite. This, as he observes, goes to prove that both the electro-magnetic process and the sifting process are useless for the purification of this sand from titanium. In fact, as regards the sifting or riddling process, its effect is rather to increase the proportion of titanium in the ore saved for smelting, as the magnetite is the finest-grained part of this sand. This also applies to the electro-magnetic process."

THE RE-LIGHTING MARSAUT MINE LAMP.

The accompanying vertical section and details illustrate the Marsaut safety lamp, fitted with Seippel re-lighter, and adapted for burning benzine, lately brought to the notice of the Société de l'Industrie Minérale by M. Lafitte, chief engineer of the Lens Colliery, in the Pas-de-Calais, France, to whose order it was constructed in the hope that its use might be officially permitted in fiery mines.

As it was desired to retain the Seippel re-lighter, which is fitted to the top of the reservoir, it also became necesssary to preserve in the Lens lamp nearly the same arrangement as in that used at Westphalian collieries; but the lamp is made of sheet iron instead of malleable cast iron, the bottom, however, being of brass, while it is less high, but at the same time wider, so as to receive the rack which forms part of the locking arrangement employed. The reservoir encloses a cylindrical brass cage containing the wick-carrier and screw for working it, the shank of this screw being enclosed in a small brass tube; and it passes through the bottom of the reservoir, terminating in a milled head, so that it can be turned from the outside. The annular portion comprised between the cage and the sides of the reservoir is filled with cotton wool, being traversed by a small tube through which passes the rod for working the re-lighter; and this rod terminates under the reservoir in a wing key for actuating the re-lighter, as may be seen in the vertical section (Fig. 1). The round wick of plaited cotton is inserted tightly in the wick-carrier, the diameter of which is 5.5 mm, while it is about 14 cm. long. The last 4 cm. of the wick are unravelled; and this portion remains in contact with a small layer of cotton wool placed at the bottom of the central cage. Lastly, the bottom of the reservoir has in the middle a circular aperture of 27 mm. diameter, closed by a screw plug; and when this plug is screwed home it comes flush with the top of the reservoir. In the middle of the plug there is a brass chimney, 15 mm. high, into which the wick-carrier fits exactly.

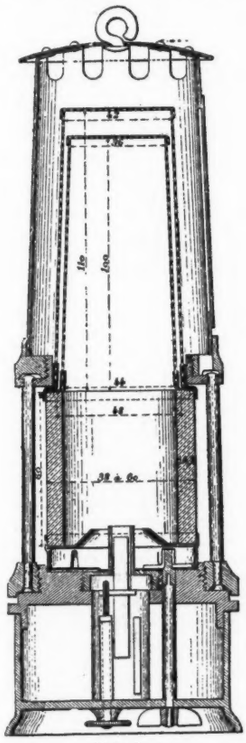


FIG. 1.

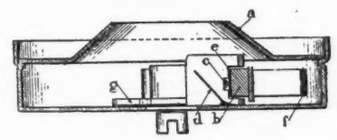


FIG. 3.

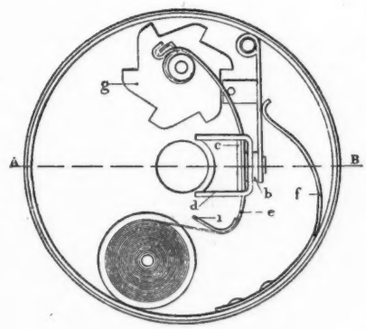


FIG. 2.

MARSAUT MINERS' LAMP, WITH RE-LIGHTING ATTACHMENT.

The Seippel re-lighter, a plan and vertical section of which are shown by Figs. 2 and 3, does not form part of the reservoir, but is placed between it and the glass cylinder. It consists of a brass box of circular form, having its diameter just a little larger than the external diameter of the glass, its height being 14 mm.; and it is closed by a movable brass cover, the central portion of which is of shallow-conical shape, leaving in the middle (at the level of the plug chimney top) a circular aperture 18 mm. in diameter. The box bottom, which is flat, and has in the middle a hole of 10 mm. diameter for allowing the plug chimney to pass, fits on the top of the lamp, being kept in place by its circular edge; and under the bottom projects a small iron cylinder having a diametral mortise. The small cylinder engages in a corresponding aperture in the reservoir cover; and the mortise receives a small tenon, which terminates the working rod of the re-lighter. Inside the box there is a brass pin, on which is wound a ribbon with the dabs of lighting substance. This ribbon consists of a band of thin but strong paper, with 80 fulminating lighters. On leaving its support, the ribbon first passes over a rounded part forming guide, and then between a minute hammer and anvil, being finally fixed on the pivot of a cam and wheel; and this pivot is in one piece with the small cylinder receiving the tenon of the firing rod which is worked from the outside. Turning this rod by the wing key draws along the ribbon, which is unwound over its support while being wound up on the spindle of the cam wheel. At the same time the cams raise the hammer which, driven back smartly by a spring, causes the ignition. The flame, directed by a small inclined plane and by the conical portion of the cover, is made to impinge on the end of the wick, the re-lighting of which is thus ensured. This re-lighter, which works well, has, in the author's opinion, the additional advantage of not greatly complicating the construction of the reservoir.

The crystal glass, which is arranged directly over the re-lighter cover, has the outside diameter 60 mm. and the thickness 6 mm. A brass cage with six uprights is screwed on the reservoir, thus pressing together the various parts—gauze, glass, re-lighter; and reservoir; and one of the uprights takes the form of a small flat bar, for receiving the bolt of the Dinoire locking arrangement, as used at the Lens Colliery.

At the top of the cage there is a threaded portion, on which is screwed a shield provided with a window 80 mm. high by 45 mm. wide, generally kept closed by a shutter. This arrangement permits examination of the gauze without the necessity of unscrewing the shield, so that it is possible, if thought desirable, to fasten the latter to the cage by a lead rivet; and the window is specially useful for ensuring the facility of re-lighting.

The lamp complete, provided with 15 grammes of cotton wool, but not filled with benzine, weighs 1,575 grammes; and the reservoir contains 135 grammes of benzine, bringing up the total weight of the lamp in working order to 1,710 grammes.

About 15 grammes of best quality cotton wool is stuffed into the reservoir between its central cage and circular inside; and, in addition to this, at the bottom of the cage is arranged a small layer of the same substance, weighing half a gramme. The lamp may be used for 12 months without renewing the cotton wool stuffing, although it is advisable to change the layer at the bottom of the cage every 3 months.

The wicks are 8 mm. in diameter, so that they have to be slightly compressed for passing into the 5 mm. wick-holder, and they weigh about 2.25 grammes. They would last for any length of time if they did not become dirty; but on this account they should be renewed every year.

A judicious choice of the benzine is necessary to efficient action of the lamp. The ordinary commercial benzines contain products which evaporate at a low temperature; and directly the lamp becomes heated they give off vapor abundantly, the flame lengthening and becoming smoky. It is also necessary that the spirit shall contain no carbides, that volatilise with difficulty and become concentrated in the cotton wool, fouling it rapidly. The author uses with advantage a petroleum product of about 0.700 density, that enters into ebullition between 58° and 120° C. In order to fill the lamp the screw plug is removed, the spirit introduced by means of a small funnel, and the lamp turned upside down to allow the excess to flow off, the 15 grammes of cotton wool absorbing 135 grammes of spirit. The mean consumption per lamp per hour, as was ascertained from the lamps given out to workmen for several months, is 5.58 grammes, corresponding with a duration of more than 24 hours; and trials made on the surface have also shown that the lamp is capable of burning 28 hours uninterruptedly with a 25 mm. flame. The combustion of the spirit causes no smoke; the gauze does not become fouled, while it may be cleaned very easily; and the glass is almost as clean at the end of a shift as at the beginning, so that the lighting power remains constant during the whole shift—a great advantage of benzine as compared with oil lamps, which is highly appreciated by the workmen.

A ribbon with 80 igniters lasts 40 days on an average. Certain precautions have to be observed in connection with the re-lighting. Care must be taken that the lamp be not full of vapor, because in that case, when the ignition is effected, the lamp would become filled with burnt gases that might cause extinction of the flame; and it is advisable to proceed as follows: The wick-carrier is drawn down to the bottom of its tube, after which the inside of the lamp is ventilated by opening the shutter of the shield, and if necessary blowing on to the gauze, when the wick-carrier must be raised quickly and lighted at once. With these precautions but few misses will occur; but the hammer, anvil and inclined plane must be kept clean.

This lamp, when burning the benzine mentioned above, is far more sensitive to fire-damp than is an oil-fed lamp. On making the flame very small, which is easily done by means of the milled head of the wick-carrier, the observer can with practice detect 0.5 per cent. of fire-damp; and with a content of 1 per cent. the cap is about 4 mm. high.

The illuminating power, as shown by careful tests, is fully equal to oil, and the cost about 7 per cent. less. The benzine must be carefully handled, in view of its inflammable nature. The reservoirs are filled in a lamp room away from the shaft buildings; and this operation must naturally be effected with certain precautions until after the cotton wool has been drained and the plug screwed home.

IRON ORE RAILROAD IN SWEDEN.—In Sweden a new branch line, 9 kms. long, from Gellivara to a new iron ore mine, called Kaskuls Kulle, has been constructed during last year. The mine to which the railway leads is expected to give a traffic of 80,000 tons. The Gellivara Railway to the Norwegian frontier is now under construction, and a great number of men is being employed in the work. The railway is to be opened for traffic right through to Ofoten, on the Coast of Norway, in 1903. The Government main railway to the Finnish frontier is also under construction, and the section from Boden to the Kalix River is to be opened for traffic in 1901.

ELECTRIC RAILWAY UP MONT BLANC.—United States Consul Skinner writes from Marseilles, July 12th, 1899: "I am advised that the Paris, Lyons & Mediterranean Railway Company (headquarters at 88 Rue St. Lazare, Paris) has undertaken the construction and operation of an electric railway between Fayet and Chamounix, at the foot of Mont Blanc. The line is to be in operation within 20 months, and it is to be presumed that the company will be interested in propositions for machinery and equipment. Power is to be furnished by the River Arve. The cars are to be each supplied with its own dynamo. The contract for building the road proper and providing the water power has been divided into two parts and awarded to Gagner & Frères of Annency, and Richard & Meynard, of Avignon, France.

QUESTIONS AND ANSWERS.

(Queries addressed to this department should relate to matters within the special province of this periodical, such as mining, metallurgy, chemistry, geology, mineralogy, machinery, supplies, etc. As it is manifestly impossible to devote space to all the questions and notes constantly received, preference will be given to topics which seem to be of interest to others besides the inquirer. We cannot here undertake to give professional advice on problems requiring special investigation and which should be obtained from a consulting expert. Nor can we undertake to give advice about mining companies or mining stocks. Brief replies to questions will be welcomed from correspondents. While names will not be published, all inquirers should send their names and addresses. Anonymous questions will not be answered. Preference will, of course, always be given to questions submitted by subscribers.—Editor E. & M. J.)

Asbestos.—1. Is there any firm which makes steam-pipe covering, or molds for making this covering? Is there any concern making asbestos paper?—H. A.

2. Who are the chief purchasers of asbestos? What price does it bring in New York? What quality is that used for steam-pipe coverings?—W. B. L.

Answer.—The asbestos business is in a few hands, and it is very difficult to ascertain prices for that reason. The price has a wide range also, depending on quality. At present most of the asbestos used in New York comes from the province of Quebec, Canada. The chief buyer is the H. W. Johns Company, of New York, which has been in trade for many years. The molds for making steam pipe covering could be made by any average machine shop, and there is no concern making a specialty of them. Outside of New York asbestos coverings, etc., are made by the Asbestos & Asbestic Company, at Danville, Quebec, from asbestos mined close by.

Dry Placer Working Machinery.—Will you kindly give me some information as to "dry washers" for placer mining, or refer me to a source of such information.—J. C.

Answer.—Your question has frequently been put, but to answer your inquiries and others we will partially repeat what we have heretofore said: There are a number of devices for dry placer working, which have been more or less successful. Machines which have been used in the Altar gold field in Sonora, Mexico, were described in the "Engineering and Mining Journal," March 13th, 1897. Another, which is now on trial in Arizona, was described in the issue of March 26th, 1898. Methods in use in Western Australia, where there is little or no water to be had, were described in the issue of July 8th, 1899. Any of the large manufacturers of mining machinery who advertise in the "Engineering and Mining Journal" can give you a list of dry placer machines.

Fossil Resin.—I send samples of a substance that occurs in nodules in the ground about here. The local blacksmiths use it in welding iron at their forges. Has it value?—H. L.

Answer.—Judging from their appearance and the way they burn, the specimens belong to the fossil resins, a class of hydrocarbon minerals of wide occurrence. Amber, a clear tough transparent variety, is the best known and most valuable. The mineral you send has little value unless it can be mined cheaply in considerable quantities.

The value of amber in the market formerly depended almost entirely on the size of the pieces in which it was found. The larger pieces commanded a fancy price, while the smaller pieces had a small value only, and the clippings none at all. Recently, however, the Germans, who handle nearly all the amber, have discovered a process which they keep secret—but which probably includes heating and a high pressure—by which the small pieces of amber and the drips, waste, etc., can be pressed into large blocks, which are clear and free from flaw. This has added largely to the production of amber.

Prospectors' Outfits.—As I expect shortly to go to South America on a prospecting tour, I would like some information. Can you tell me: 1. Who publishes a good book on Placer Mining? 2. Is there such a thing in the market as a good portable dry washer? 3. Where can I find what is made in the line of condensed food, such as meats, soups and the like, which can be carried in a prospector's outfit?—H. E. M.

Answer.—Generally speaking, a trip to a foreign country as a prospector is a doubtful enterprise unless you have gained some experience at home—the more the better. The first requisite for a successful prospector is practical experience. What he can learn from books is a small part of what he needs when he starts on his own account. To take your question in detail:

1. The Scientific Publishing Company can furnish you with all the good books published on prospecting and placer mining. Among them we might name Stretch's "Prospecting, Locating and Valuing Mines" ($2.50); Wilson's "Hydraulic and Placer Mining" ($2); or for a more elaborate work, if you desire one, Bowie's "Hydraulic Mining" ($5). Consult also an excellent paper on "Equipment of Camps," read by Prof. Snow before the American Institute of Mining Engineers.

2. This question is answered elsewhere on this page.

3. Most old travelers and prospectors will tell you that the great majority of so-called "condensed foods" are delusions. Canned foods are better, but are apt to be heavy. Any large grocer or provision dealer in your city can give you a long list of these foods. Any prospector of experience can give you advice on food. The part of South America you intend to visit would make a great difference in your needs, as there are many varieties of climate, etc., to be found there.

Cost of Lead Ore in the East.—Will you kindly answer the following questions:

1. At what approximate price could lead ore (galena) from Missouri be laid down at Buffalo, N. Y.? Price to be per ton, based on the contained metallic lead.

2. What does it cost per ton to produce metallic lead from the non-argentiferous ores in Missouri?—I. W. D.

1. This can best be answered by giving current prices and rates. Last week's Joplin ore market gave the price of lead ore there at $27.50 per 1,000 lbs., or $55 per ton. As these ores are concentrates, carrying about 70 per cent. lead, this price would be about 3.93 cents a pound for the contained lead. The freight rates from Joplin, or other local Missouri points, to Buffalo would be about $6 a short ton, for large lots—not less than a car load of 30,000 lbs. If a large business was contemplated, some reduction on rates could probably be secured. On the basis of these figures lead ore would cost in Buffalo about $61 a short ton, or about 4.36 cents a pound; which is only about 0.25 cent less than the current price of metallic lead in New York. For the Southeast Missouri District there are no quotations for lead ores, as they are generally smelted by the companies and are not sold as in the Joplin District. The price, however, would probably cost about the same.

2. The cost of producing metallic lead at the best equipped mines of the Southeast Missouri District, about Bonne Terre, is, we are informed, about 2.25 cents a pound, or $45 a long ton. (See "The Mineral Industry," Volume VII). This is probably as low a cost as can be found anywhere in the United States.

PATENTS RELATING TO MINING AND METALLURGY.

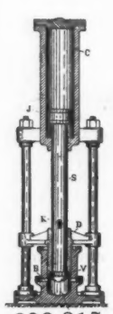
UNITED STATES.

The following is a list of the patents relating to mining and metallurgy and kindred subjects issued by the United States Patent Office. A copy of the specifications of any of these will be mailed by the Scientific Publishing Company upon receipt of 25 cents.

Week Ending August 1st.

629,766. COMPOSITION OF MATTER FOR PAVING, ETC., AND PROCESS OF FORMING SAME. William J. Burke, Scranton, Pa. Composition for paving and building purposes, consisting of impalpably-powdered anthracite coal for the base, and an oleaginous resinous binder.

629,817. APPARATUS FOR CONVERTING LIQUID METAL INTO HOLLOW ARTICLES OR STRIPS OF METAL. August Prym, Stolberg, Germany. An apparatus comprising in combination with a hydraulic pressure cylinder, C, a plunger, S, a piston, J, and pressure-head, V, both of which are securely mounted on the respective ends of said plunger, a cylinder, A, adapted to receive liquid metal,



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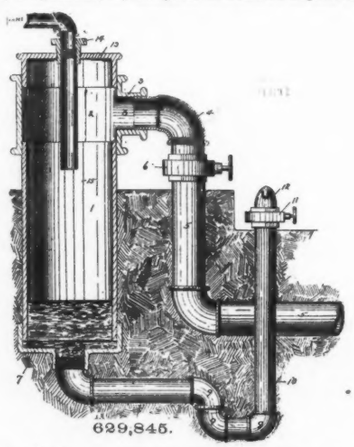


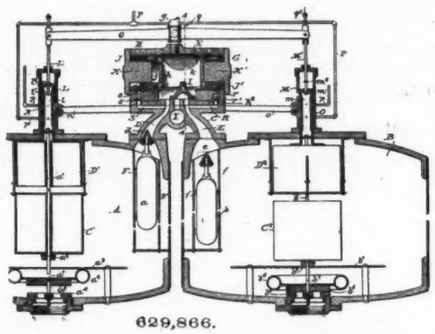
629,845.

openings, B, in said cylinder to serve as overflow for the slag and impurities of the liquid metal, a sleeve, D, adjustably mounted and longitudinally movable in cylinder, A, and a removable key, K, seated in plunger, S, by means of which said sleeve is secured to plunger, S.

629,825. KILN FOR BURNING EARTHENWARE, ETC. Robert C. Staley, Burton-on-Trent, England. A kiln comprising the inner and outer walls with a space between, a pair of doors at opposite sides of said kiln, one member of each pair having flues leading therefrom directly and diagonally and opening to the space at the adjacent side of the kiln, and the other doors of each pair having direct diagonal flues leading therefrom adjacent to the center of the kiln and opening into the space at the opposite side, said kiln having a single opening centrally at the top of the kiln.

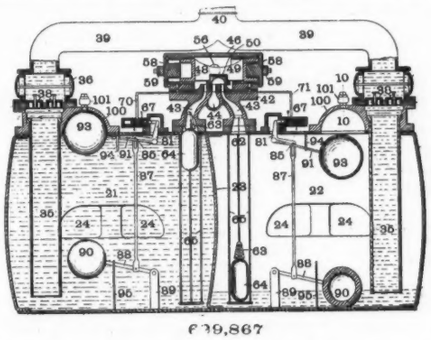
629,845. GAS AND OIL SEPARATOR. Clabourn C. Brown and William E. Brown, Pendleton, Ind. The combination with the separating cylinder 1, the coupling 2 having outlet 3, pipes 5 connected therewith cap 13, pipe 15, pipes 8 and 10 and L's 9, leading from the bottom of the cylinder, all combined and arranged to co-operate.

629,866. COMPRESSED-AIR WATER ELEVATOR. Marcus L. Mitchell, St. Louis, Mo. Two chambers each provided with a valved inlet and a valved delivery, a main valve for controlling the admission of air to and exhaust thereof from said chambers, and means for alternately and independently connecting each end of said main valve with the air supply and exhaust by the rise and fall of the liquid in said chambers, whereby the shifting of the main valve is controlled by the admission and exhaust of air due to the conjoint action of both chambers.



629,866.

629,867. COMPRESSED AIR PUMP. Marcus L. Mitchell, St. Louis, Mo. Two chambers, each provided with a valved inlet and a valved discharge, two main air-ports, one communicating with each chamber, a suitable air-supply adapted to be put in communication with said main air-ports, an exhaust-port also adapted to be put in communication with said main air-ports, a valve for closing off the main air-



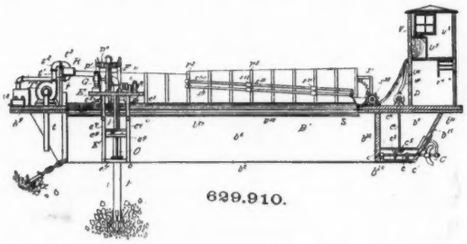
629,867

port in communication with an emptied chamber from both the air supply and the exhaust, while the main air-port of the filling chamber is in communication with the exhaust, and means for maintaining said latter communication until said latter chamber is filled.

629,869. HYDRAULIC MOTOR AND AIR COMPRESSOR. Thomas G. Perry, Chicago, Ill. In combination with the water-chamber of a hydraulic air-compressor, the movable wall or diaphragm thereof, the water-inlet pipe extending up through the bottom of said chamber and the water-controlling valve having its stem extending through said pipe and operatively connected with the moving wall, the air-vent opening at the upper part of the chamber and leading into the water-outlet pipe.

629,905. PROCESS OF EXTRACTING GOLD OR SILVER. John J. Hood, London, England. A precipitant consisting of an alloy of about 100 parts of zinc, 5 parts of antimony and 20 parts of mercury.

629,910. SUBMARINE MINING AND ORE-SEPARATING APPARATUS. Edwin C. Nichols, Topeka, Kans., assignor of one-half to William C. Smith, same place. A frame, a motor upon said frame and a stationary material-conveying hollow shaft supported within said frame, a suction and force pump connected with said shaft, said



629,910.

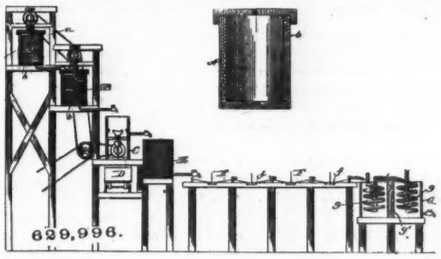
shaft also having a separate telescopic portion, rotating power-conveying devices connected with the motor and said telescopic portion of said shaft, an elevating apparatus upon said frame, also connected with the telescopic portion of said shaft, and separate power-reversing mechanism upon said frame connected with said shaft, elevating apparatus, and also connected with said motor.

629,947. ORE WASHER. Edwin J. Beverstock, Washington, D. C. A machine comprising a pivotally-suspended screening-basket having a

629,947

curved bottom and a tank having a bottom similarly curved at its lower portion and outwardly deflected at the discharge end.

629,996. APPARATUS FOR MAKING PHOSPHORIC ACID. Julius Holtmann, Baltimore, Md. The combination of an agitator, A, an auxiliary agitator, B, a centrifugal machine, a receiving-tank, said devices arranged serially, one below the other, a series of concentrating tanks having heating-coils therein and a cooler, G, to re-



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duce the temperature of the liquid, the arrangement being such that the manufacture of the acid can be carried on continuously and uniformly.

630,013. ROTARY PUMP. Benjamin F. Taber, Buffalo, N. Y., assignor to Bright C. Taber, same place. The combination with the inclosing case, of a rotary cylinder provided with sliding pistons and pockets for the reception of foreign substances arranged in the cylinder adjacent to said pistons.

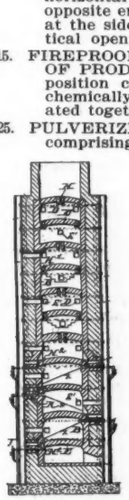
630,071. DEPOLARIZATION SUBSTANCE FOR ELECTRIC BATTERIES. Gustav Platner, Witzenhausen, Germany. A substance composed of chlorates combined with metallic salts capable of readily forming basic salts and disengaging acids or halogens, as set forth.

630,082. MACHINE FOR JUMPING, WELDING AND BENDING METAL BARS. Adolphe Charlet, Brussels, Belgium. The combination, with a suitable frame including a bedplate, of a pair of carriers whereof one has rectilineal and the other rotary movement, said last-named carrier being provided with concentric gear-teeth, gripping devices mounted on each carrier, a pair of revoluble shafts having suitable operating means, operative connection between one of said shafts and the rectilineally-movable carrier, and a worm carried on the other of said shafts and engaging the gear-teeth of the other of said carriers.

630,108. ORE ROASTING AND CALCINING FURNACE. George A. Richard, Mount Morgan, Queensland. The device comprises a vertically-elongated structure, a furnace at the bottom thereof and horizontal partitions therein provided with openings at alternately opposite ends, some of said partitions being provided with openings at the sides, and some of said partitions being provided with vertical openings along the center.

630,115. FIREPROOFING AND INSULATING COMPOUND AND METHOD OF PRODUCING SAME. Emil Rueff, New York, N. Y. A composition comprising alkaline magnesite containing an excess of chemically-bound water combined with a fibrous material associated together in a solid mass.

630,125. PULVERIZER. James H. Steele, Butte, Montana. A pulverizer, comprising a revoluble drum having inlet and outlet openings at



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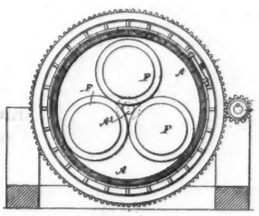

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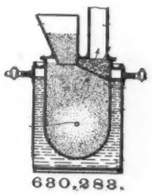

630,283.

opposite ends, and sets of plain disk-like crushing rollers in the drum, each set consisting of three rollers in peripheral contact with each other.

630,181. COLLAPSIBLE CORE-BAR FOR USE IN CASTING METAL PIPES, ETC. Frederick Chambers, Stanton by Dale, England, assignor to the Stanton Iron Works Company, Limited, same place. A core-bar, consisting of a split shell having interior wedge-shaped projections near the edges of the split, contractile split rings secured inside the shell to contract the same, the end heads carrying the trunnions.

630,207. KILN FOR BURNING SEWER PIPE. James T. Finch, Mimico, Canada. The combination of a pair of kilns, each consisting of a burning chamber, an arc-shaped dome for the burning chamber having a series of passages therethrough, removable dampers to close the passages, a top inclosing the arc-shaped dome, and forming with it a supplemental chamber, and a conduit-pipe connecting the supplemental chambers of the kilns.

630,246. PREPARATION OF ALUMINUM FOR ELECTROPLATING. Frank S. Loeb, New Kensington, Pa. The method consists in treating the aluminum with hydrofluoric acid, then quicking the aluminum and then retreating the quicked aluminum with hydrofluoric acid.

630,282. PROCESS OF COMBUSTION OF LIQUID HYDROCARBONS. Michel Body, Brussels, Belgium, assignor to Otto Meurer, Cologne, Germany. The process consists in converting mainly into soot the hydrocarbon, mixing it with air and steam, and burning the mixture in contact with a red-hot surface.

630,283. METHOD OF AND APPARATUS FOR UTILIZING WASTE GASES AND HEAT FROM ELECTRIC FURNACES. Wilhelm Borchers, Aix-la-Chapelle, Germany. The combination with a steam-generator, of a series of electric furnaces arranged therein and each having a filtering device near its upper portion, electrodes in each furnace and connections whereby said furnaces may be worked successively.

630,285. APPARATUS FOR CASTING CRUCIBLE-STEEL . Charles Capper, Wilkinsburg, Pa., assignor of one-half to William D. Corcoran, Pittsburg, Pa. A series of furnaces, a series of tilting holders mounted upon stationary frames, one adjacent to each furnace, means for carrying crucibles from each furnace to its holder, and a ladle-car arranged to travel in front of said holders and to receive steel from the crucibles.

PERSONAL.

Mr. Benedict Crowell of Cleveland, O., is in California examining mining properties in the southern part of the state.

Mr. F. M. Bard of Nelson, B. C., is to superintend the erection of a 40-stamp mill for the Darien Mining Company of Darien, Colombia.

Mr. E. H. Harriman has returned to New York City from a trip to Alaska with the exploration party of prominent scientists that he fitted out last May.

Mr. John E. Rothwell has accepted a position as metallurgist for the Colorado Ore Reduction Company's works in Arequa Gulch, near Cripple Creek, Colo.

Mr. Courtenay De Kalb, mining engineer of New York City, having completed his work at Concheno, Mex., has left for the north shore of Lake Huron, where he will inspect mines.

Mr. Cyril Brackenbury has resigned his position as engineer for the Genoa and Elba mines of the Minnesota Iron Company on the Mesabi Range, Minn., to accept the position of mining engineer at the Quincy Mine, Houghton, Mich.

The National Mining Society of Peru has named Srs. C. Bassadre Forero and Juan A. Lorenzo as delegates to represent the mining industry of Peru at the commercial congress to be held in Philadelphia in connection with the Commercial Museum there.

Mr. John H. Garrett of Graham, Garrett & Company, New York City, left for Spokane this week, in company with Mr. James B. Smith of New Haven, Conn., to inspect the claims of the Georgie Reed Gold Mining Company, Republic, Wash.

Mr. Charles Wade Stickney, mining engineer and metallurgist, late general manager of the Phi Kappa Mining Company of London, has recently been tendered and accepted the position of superintendent of the metallurgical operations of the Granite Mountain Gold Mining Company of Boston, Mass. His present address is White Pine, Colorado.

OBITUARY.

H. V. Carter, a mining expert of Salt Lake City, died suddenly on August 6th, at Shasta Retreat, Siskiyou County, Cal. His remains were taken to Salt Lake for interment.

Johannes Hendrik van Ryn, well known in connection with South African mining, died recently at Margate, England, where he was taking a holiday. He was best known by his connection with the Van Ryn Gold Mines Estate, and he was also a director of the following companies: Blevin's Find Gold Mining Company, Development and Finance Company, Lomatie (Lydenburg) Exploration Company, Violet Consolidated Gold Mining Company, East Rand Extension Gold Mining Company, etc.

Robert Wilhelm Eberhard von Bunsen, the famous German chemist, died at Heidelberg, August 16th. He was born at Göttingen, on March 31st, 1811. He took the course of chemistry and physics at Göttingen, with special mathematical instruction under Gauss, and took the degree of Doctor of Philosophy in 1830. He continued his studies in Paris, Berlin and Vienna. In 1852 he accepted the appointment of head professor of chemistry at Heidelberg, which place he held until he died. While Bunsen was one of the world's great teachers of chemistry, his best original work was in spectrum analysis, and his greatest inventions, the Bunsen burner, the Bunsen battery and the spectroscope. In 1838 he began studying the chemical changes which occur in a blast furnace. He showed that at least 42% of the heat evolved from the fuel was lost and that a great economy could be effected by collecting the combustible gases which escaped and storing them for fuel. In 1841 he invented the Bunsen battery. In the years 1846 and 1847 he visited Iceland to study volcanoes and geysers. In 1857, Bunsen returned to his studies of the spectrum, calling to his assistance Kirchoff, the young professor of physics at Heidelberg. The result of the investigations was not only the final discovery of spectrum analysis and of the spectroscope, but also the creation of three branches of science, spectroscopy as a department of optics, spectroscopic astronomy and spectroscopic chemistry. By means of the spectrum lines he discovered the metals cæsium and rubidium. In 1883 he was elected one of the 8 foreign associates of the French Academy of Sciences.

SOCIETIES AND TECHNICAL SCHOOLS.

Camborne Mining School.—This school at Camborne in Cornwall, England, recently purchased the east part of South Condurrow Mine, formerly one of the most profitable of the Cornwall tin mines. Under the direction of the chief of the mining department of the school, Mr. William Thomas, the mine is being put in thorough order, and students of the school will be able to do every kind of mining work, as sinking, drifting, recovering shafts and levels, timbering, etc. From the main shaft work is carried on in 3 tin lodes and 1 copper lode, while a great deal of exploration work will be done below ground to open other lodes. Air drills are to be installed. On the surface will be rock crushers, rolls, revolving tables, Frue vanners and jigs for treating ores. The course is 3 years long and students have 2 days a week for practical mining work.

INDUSTRIAL NOTES

It is stated that the old blast furnace of the Falling Spring Iron Company at Chambersburg, Pa., is to be repaired and put in blast again.

F. B. Nichols, formerly with the Howard-Harrison Iron Company, and associates, will erect a large pipe factory at Bessemer, Ala.

The Colorado Iron Works of Denver, Colo., has an order for a 100-ton copper matte smelter which it will build and erect at Cherry Creek, Ariz.

The N. O. Nelson Foundry Company of St. Louis, is erecting a soil pipe factory at Bessemer, Ala., and have ordered all work rushed on their new plant.

The British steamer "Harworth" brought a cargo of nearly 4,000 tons of iron ore from Cartagena, Spain, last week for the Tidewater Steel Company of Chester, Pa.

The British steamship "Puritan" left Philadelphia last week with a cargo of Baldwin locomotives and tenders and 18 steel bridges for the Chinese Eastern Railroad.

The E. P. Allis Company of Milwaukee, Wis., is to furnish engines for the electric power plant of Glasgow, Scotland, Tramway Company. The Allis Company's offer was £114,544.

The Norwalk Iron Works, South Norwalk, Conn., is furnishing the compressors for a compressed air haulage plant now being installed at the Aragon Mine, Norway, Mich.

The Denver Engineering Works Company of Denver, Colo., recently shipped a 4 H.P. compressed air hoist for hoisting timber in stopes for the Argentum-Juanita property at Aspen.

The Bessemer Rolling Mill of Bessemer, Ala., is to be reorganized, and work will be resumed at the plant which has been long idle. It is said that work will begin again within the next 60 days.

Adam Cook's Sons of New York City state that samples of Albany lubricating compound are sent free to engineers wishing to test them. Nos. 2 and 3 are especially recommended for use in hot weather.

A Pittsburg, Pa., despatch states that a company in which F. W. Lanchester of Birmingham, Eng., is a large stockholder, is to build a large plant in Pittsburg to manufacture the Lanchester oil motor.

The J. H. Montgomery Machinery Company of Denver, Colo., is erecting a wire rope tramway for the Standard Mining and Milling Company, near Springdale, Boulder County. It is about 1 mile long, with a capacity of 100 tons a day, connecting the mine and mill. The Montgomery Company is now shipping 4 whims to California.

A charter has been taken out by the Chester Tube Mill Company of Chester, Pa., which is capitalized at $1,000,000. It is said that the company will erect an extensive plant at Chester, Pa., at which wrought iron pipe will be made. The new company, it is reported, has been formed as a competitor to the National Tube Company.

The Raymond Brothers Impact Pulverizer Company of Chicago, Ill., states that it is changing the name of its "International" horizontal roller mill to the Albert Raymond roller mill. The company also states that it is building a 4-roller mill with a 20-vacuum separator attached for the Acme Mining and Milling Company of Custer, S. D.

The Metropolitan Steam Boiler Compound Manufacturing Company of Brooklyn, N. Y., states its sales of Metropolitan Boiler Compounds are steadily increasing, particularly to mines and milling plants. The company also state that it is prepared to analyze all samples of feed water sent it, and prepare compounds suited to the needs of each individual case.

The Denver Smelting and Mining Company, with a capital stock of $1,000,000 has been incorporated by H. M. Joralemon and F. W. Crocker of Denver, Nathaniel Tooker of New York, Thomas Scattergood of Philadelphia, and Irving Champlin of Providence, R. I. It is reported that the company will not, as stated in some papers, build in opposition to the American Smelting and Refining Company.

The Brooks Locomotive Works, of Dunkirk, N. Y., are finishing for the Illinois Central Railroad a locomotive claimed to be larger than any in the world. It will be a 12-wheel freight with cylinders of 23 in. diameter and 30 in. stroke. It will have 8 drivers of 57 in. diameter. The boiler will have 424 2 in. flues, 14 ft. 8⅝ in. long. The total weight is 218,000 lbs., and with tender 330,000 lbs. It will have tractive force or drawbar pull of 52,000 lbs.

The Columbia Chemical Company, the Pittsburg Plate Glass Company's venture into the manufacture of soda ash, has elected the following officers: President, W. L. Clause; vice-president, W. D. Hartupee; secretary, H. G. Chisnell; treasurer, Edward Pitcairn, who with C. W. Brown form the directorate. A. Pitcairn was elected comptroller and H. A. Gault, late with the Michigan Alkali Company, manager. It is said that the company will build a large plant for manufacturing soda ash, to cost $3,000,000, probably at Barberton, O.

The estate of James R. Langton of Montpelier, Vt., has given the Berlin Iron Bridge Company of East Berlin, Conn., a contract for a bridge 70 ft. long, having 26 ft. clear in the roadway and a 6 ft. sidewalk on each side. The bridge will be a riveted lattice through bridge with heavy steel joists. The Jones & Lampson Machine Company of Springfield, Vt., has let the contract to the Berlin Iron Bridge Company for a new steel building 60 ft. wide and 95 ft. long, having many special features.

At the annual meeting of the stockholders of the Risdon Iron and Locomotive Works of San Francisco the following directors were elected for the ensuing year: Captain W. H. Taylor, William Alvord, R. S. Moore, A. Dalton Harrison, Augustus Taylor, F. G. Drum and L. R. Mead. The following officers were elected: Captain W. H. Taylor, president; R. S. Moore, vice-president and superintendent, and L. R. Mead, secretary. With the exception of F. G. Drum the board is composed the same as last year, Mr. Drum taking the place of Lloyd Tevis, deceased.

Westinghouse, Church, Kerr & Company of Pittsburg, Pa., have an order for 256 Roney mechanical stokers for the new power plant of the Manhattan Elevated Railway Company of New York. The Manhattan plant is the largest of the 3 plants at New York which have been fitted within a month, and the 3 aggregate 300,000 engine H.P. The Roney stoker has been adopted for the Metropolitan Street Railway Company's power house and the Third Avenue Railroad Company's power house in New York. The stokers in each of the power houses will be used in connection with Babcock & Wilcox boilers, and coal and ash handling machinery, and will be adapted to burn either bituminous or anthracite coal.

The Buffalo Forge Company, of Buffalo, N. Y., is to furnish the Deutsche Niles Werkzeugmaschinen-fabrik, Berlin, Germany, machinery for heating and ventilating the new works of the Berlin company, consisting of 2 full housing duplex fans, each standing 180 in. tall, with which fans will be used; 23,000 ft. of Buffalo fan system heating surface; also 2 full housing fans, each standing 140 in. tall, with which are used 10,000 ft. of heater. If the pipe of the above 2 heaters were laid in single continuous lengths it would be nearly 6 miles of 1-in. pipe. The Buffalo Forge Company has also been awarded a Hawaiian contract for 4 50 H.P. and 2 75 H.P. high speed vertical center crank engines, which will run in oil. A direct connected pressure blower will also be supplied and a 300-light generating set.

The Harrison Safety Boiler Works of Philadelphia, Pa., reports recent sales of the Cochrane feed-water heaters and purifiers as follows: Bethlehem (Pa.) Steel Company, 12,000 H.P.; Waterbury Rope Company, New York, 850 H.P.; E. P. Allis Company, Milwaukee, Wis., 200 H.P.; American Nut and Bolt Works, Cleveland, O., 350 H.P., and the following sales of Cochrane separators: Bellefonte (Pa.) Furnace Company, 10 in.; Pressed Steel Car Company, McKees Rocks, Pa., two 3 in., two 5 in., three 6 in., two 7 in.; Atha & Illingsworth Company, Newark, N. J., 7 in.; Howe-Brown & Company, Pittsburg, 10 in.; Norfolk Navy Yard, Portsmouth, Va., two 4 in.; Waterbury Rope Company, New York, 6 in.; Schusselburg Calico Printing Company, St. Petersburg, Russia, 8 in.; Illinois Steel Company, Joliet, Ill., 22 in.; Michigan Portland Cement Company, Quincy, Mich., 3½ in. and two 6 in.; Salem Iron Company, Leetonia, O., two 12 in., one each 6 in. and 3 in.; Fabrica de Hielo, Manila, Philippines, 8 in.

The organization of the Niles-Bement-Pond Company, incorporated in New Jersey with a capital of $8,000,000, has been completed by the election of officers. The corporation is a merger of the Niles Tool Works Company of Hamilton, O.; Bement, Miles & Company of Philadelphia, the Pond Machine Tool Company of Plainfield, N. J., and the Philadelphia Engineering Works. At the time of consolidation the 4 companies employed 3,000 hands. The officers are: Directors, Alexander Gordon, of the Niles Tool

Works Company; Charles A. Moore, of Manning, Maxwell & Moore; Clarence S. Bement and Frederick B. Miles, of Bement, Miles & Company; Gordon Shillito, Thomas T. Gaff and Daniel H. Holmes of Cincinnati; Frederick W. Gordon of Philadelphia, George T. Reiss, James P. Cullen and W. L. Clarke, of the Niles Tool Works Company; E. C. Burke of Cleveland, O.; A. C. Stebbins, of the Pond Machine Tool Company; W. S. McKinney of Pittsburg, and Robert C. McKinney. Officers, R. C. McKinney, president; James P. Cullen, first vice-president; A. C. Stebbins, second vice-president; Walter L. Clarke, third vice-president; Charles L. Cornell, of the Niles Company, treasurer; E. N. C. Davis, secretary. The capital stock is divided into $3,000,000 6% cumulative preferred and $5,000,000 common stock. Of this is issued $2,000,000 in preferred and $5,000,000 common, $1,000,000 in preferred shares being retained in the treasury to acquire minor interests in the Niles Tool Works Company.

TRADE CATALOGUES.

The West Coast Wire and Iron Works of San Francisco, Cal., besides issuing a general catalogue of wire netting and fencing, wire riddles, wrought iron fencing and grating, issues catalogue No. 2, which shows various styles of elevator cages and enclosures—some plain, some highly ornamental.

"Some Recent Installations of Worthington Condensing Apparatus," a 32-page collection of interesting and well-executed cuts printed on heavy plate paper, is published by Henry R. Worthington of New York City, Worthington jet and surface condensers, circulating and air pumps and cooling towers are shown. One interesting installation is at the electric light station at Monte Carlo, Monaco.

MACHINERY AND SUPPLIES WANTED.

If any one wanting machinery or supplies of any kind will notify the "Engineering and Mining Journal" what he needs he will be put in communication with the best manufacturers of the same.

We also offer our services to foreign correspondents who desire to purchase American goods, and shall be pleased to furnish them information concerning goods of any kind and forward them catalogues and discounts of manufacturers in each line.

All these services are rendered gratuitously in the interest of our subscribers and advertisers; the proprietors of the "Engineering and Mining Journal" are not brokers or exporters, nor have they any pecuniary interest in buying and selling goods of any kind.

GENERAL MINING NEWS.

Oil Exports.—The Bureau of Statistics reports the exports of mineral oils from the United States in July as follows, the figures in parenthesis being for the same month last year: Crude, 11,771,102 gals. (10,782,816 gals.); napthas, 1,069,408 gals. (823,790 gals.); illuminating, 59,874,989 gals. (73,325,035 gals.); lubricating and paraffin, 5,109,411 gals. (4,424,050 gals.); residuum, 3,346,602 gals. (626,514 gals.); total, 81,171,542 gals. (89,982,205 gals.). For the seven months ending July 31st, 1899, the exports amounted to 521,895,086 gals., valued at $32,717,507, as against 579,621,100 gals., valued at $29,427,860, in the corresponding period last year.

ALASKA.

Douglass Island.

Alaska Treadwell Gold Mining Company.—This company reports for July a total of 54,376 tons of ore milled, the gold saved being $92,000, or $1.69 a ton. Of the bullion, $40,760 came from 1,090 tons concentrates (sulphurets), showing an average value for these of $37.40 a ton.

ARIZONA.

Cochise County.

Commonwealth Mining Company.—This company, of which R. A. F. Penrose is president, has increased the capacity of its plant at Pearce, according to a local paper, by the addition of a 60-stamp mill.

Copper Queen.—According to a local newspaper the company now has 400 miners taking ore out of its property at Nacosari at the rate of 1,000 tons per day. Mechanics are erecting the big engines, smelters and concentrators. All the subsidiary machinery will be operated by electricity.

Maricopa County.

Hercuvar Mining Company.—Leo Goldman of Phoenix, Ariz., recently bought for $200 the personal property of this company, comprising a mill and a considerable amount of other machinery. The mine is in the extreme northwestern corner of the county, and was the property of a St. Louis company which worked it in a haphazard way. No taxes had been paid on the property for 6 years.

ARKANSAS.

Coal Miners' Strike.—In connection with strikes among the coal miners in the western part of the State, there is a conflict between State and Federal courts. Last April, a State court granted an injunction against the Kansas & Texas Coal Company, restraining it from bringing into Sebastian County "large and armed bodies of persons, affected with contagious diseases that might endanger the health or good order of the State, or create a public nuisance, under pains and penalties of the law." The coal company recently filed a petition with the Federal court to have the case removed to the jurisdiction of the State court.

Pope County.

The Mount Nebo Anthracite and the Southern Anthracite Coal Companies, near Russellville, Ark., are working with non-union men, having been idle since February. The Ouita Company is pumping water from its mines which were flooded a year ago to stop a fire.

CALIFORNIA.

(From Our Special Correspondent.)

Stanislaus Dredging Company.—This company was organized for the purpose of recovering gold from the bed of the Stanislaus River, for a distance of three miles, between Tuolumne and Calaveras counties, near Robinson's Ferry. The gravel is from 5 to 20 ft. deep, averaging about 200 ft. wide at low water. The Donahoo patent dredger will be used. The river bed is supposed to be very rich. The officers and directors of the company are: W. M. Stover, president; F. P. Bull, vice-president; S. Goodenough, secretary; C. H. Cornell, treasurer, and C. H. Storey. Capital stock is $25,000.

Amador County.

(From Our Special Correspondent.)

Amador Queen No. 2.—At this mine, south of Jackson, the water is now under control and drifting will continue on the 500 ft.

Baltimore.—This mine, near Big Bar bridge, is worked, the ore, which assays on an average $6.50 per ton, is milled at the old Tripp Mill. The property is worked by a tunnel, now in 370 ft., 150 ft. of which is in pay ore. This shoot appears to increase in width as the tunnel advances.

Bay State.—Thirty men are employed at this mine, 4 miles north of Plymouth, on development. A Stockton company controls the property.

Zella.—Work at this mine, in Jackson, continues as usual, and considerable prospecting has been done. The last mill run was on rock from the Central Eureka. Fifty men are employed in the mine and mill.

Calaveras County.

(From Our Special Correspondent.)

Coleman.—At this mine, on the road between Altaville and Angels Camp, a new hoist is being erected which rises 50 ft. above the collar of the shaft. The old shaft has been repaired down to the 150 ft., and active work will begin very soon. O. S. Buckbee is superintendent.

Petticoat.—The shaft has passed the 550 ft. where a station has been cut, and drifts begun. Sinking will continue to the 750 ft. The property is located at Railroad Flat.

Poorman.—At this mine, at Railroad Flat, the shaft has been continued from the 250 ft. to the 350 ft., and a level will be run north about 500 ft. to tap the ore body.

El Dorado County.

(From Our Special Correspondent.)

Blue Bird.—This claim, at Soapweed, is being worked under lease by Frank Morey & Company. It was a large producer in early days.

Pacific Gravel.—This property, in the Fairplay District, on the Coyote Ride Channel, comprising 60 acres, has passed into the hands of a company with a capital stock of $50,000. The directors are F. L. Atkinson, W. O. Desbrough, H. U. Prindle, J. T. Martin and J. W. Guthrie. Besides the main tunnel, 268 ft. long, 186 ft. of which are in pay gravel, there are cross-cuts and drifts aggregating 420 ft. through a body of gravel 30 by 90 ft., yielding per day to the man $4, which has been worked out. Good water power can be obtained nearby and timber is cheap.

Pocahontas.—The water in the 400 ft. shaft of this mine near El Dorado, is down to the 250 ft. level. A bond on this property is held by an English syndicate.

Umatilla.—This property, near Coyoteville, adjoining the Pacific on the east, has been opened up by 1,000 ft. of tunnel run along and near the line which divides it from the Pacific, and develops the same formation of pay gravel. The cemented gravels are worked in a revolving cylinder, 6 ft. long, making 300 revolutions per minute, having a capacity of over 225 tons every 24 hours. John Rowlands is superintendent.

Inyo County.

(From Our Special Correspondent.)

Mazourka Canyon Placer.—These mines, on the western slope of the Inyo Mountain, 7 miles east of Independence, are to be developed by a tunnel 200 ft. long, which will reach bedrock on the bottom of the canyon. The owners have ample means to put the property on a paying basis.

Oh, Be Joyful.—It is reported that this mine in Tabor Canyon, has been sold and that a plant consisting of a set of rolls and a Bryan mill, with a capacity of 40 tons, are on the way to the mine.

Saline Valley District.—A Montana company has purchased properties in this district and is opening them with 20 men, but as soon as cooler weather sets in 100 men will be put on. The selling price was $200,000, $35,000 down.

World Beater.—The Bryan mill, belonging to this mine in Pleasant Canyon, has been removed to the mine, and will be in running order in a few weeks. A cyanide plant is to be erected.

Kern County.

(From Our Special Correspondent.)

Butte Lode Mining Company.—This company has been incorporated to work the Butte Mine in Fiddler's Gulch, 1 mile north of Randsburg. Arrangements are being made to develop the property on a large scale. The directors are: J. H. Underhill of Bakersfield, president; E. S. Pettigrew, A. H. Thomas, Charles Howland, C. B. Dickinson, Herbert Smith, A. E. Madison, Abraham Jacoby and Robert Wankowski.

Golden.—This mine, 8 miles from Caliente, is being opened up by J. B. Ferris, the owner. The ledge is said to be very wide, with a 2 ft. pay streak that is very rich the balance of the rock in the vein being low grade free milling, a large amount of which is in sight. A large mill is to be erected.

Yellow Aster.—The mill at this mine, at Randsburg, is running full time. A new ore body has been uncovered in the Hercules level, at a depth of about 900 ft. Most of the men are employed on development work. A new hoisting plant is to be put in, consisting of a 130 H. P. gasoline engine and hoist, made by the Union Gas Engine Company of San Francisco, which will have a capacity of raising 6,000 lbs. 100 ft. every 3 minutes, and is good for 1,500 ft. in depth. The management intends to sink at the rate of 100 ft. per month. The late clean-ups have been better than usual.

Lassen County.

(From Our Special Correspondent.)

Golden Eagle.—This quartz mine on the east side of the town of Hayden Hill, is being worked on the 200 ft. level with good results. A large cyanide plant is being erected.

Los Angeles County.

(From Our Special Correspondent.)

Copper King & Copper Queen.—These copper claims near Ravena, 3 miles south from Acton, are being developed by the owner, J. J. Moore. The shaft in the Copper King is down 40 ft. with a 30 ft. cut. The ore is said to assay 17% copper, $6.21 gold and 2.7 oz. silver.

Nevada County.

Powning Gold and Silver Mining Company.—At the recent annual meeting of this Grass Valley Company, the following directors were elected: George Mainhart, Charles Nettle, James Hosking, Michael Sproul and A. B. Brady. The board organized by electing the following officers: President and superintendent, George Mainhart; secretary, A. B. Brady; treasurer, James Hoeking.

(From Our Special Correspondent.)

Edison Copper Mining Company.—This company has been incorporated with a capital of $100,000 in shares of 25c. The directors are Mrs. Josephine Woehler, G. C. Gehrig, Otto Woehler, L. A. Garthe and George Gehrig, Jr. A mining claim near the town of North Bloomfield is to be developed.

Last Chance.—This copper and gold mine, 13 miles northeast from Wheatland, 16 miles southwest from Grass Valley, is to be reopened by the owners, D. O. Mills and E. A. Roberts. It was worked in the '60s and produced a large amount of ore from a 5½ ft. ledge which is said to have yielded $10 in gold and from 10 to 20% copper. The old shaft was down 216 ft., but will have to be retimbered, as a forest fire which burnt the hoist destroyed some of the timbering. Adjoining the Last Chance are the Green Lead, Mineral Hill and Alice Wan. All these claims are rich in copper and in all of them the gold value is from $7 to $10 per ton.

Nevada Gold and Copper Mining Company.—This company has taken hold of the Alice Wan claim and will begin work at once.

Reward.—At the bottom of the shaft, a depth of 770 ft., some ore has been found rich in free gold and galena. The mine, which is 1 mile southwest from Nevada City, has paid handsomely. Sinking will continue to the 1,000 ft. The ledge averages 10 in. wide.

Union Hill Consolidated Mines.—This company has been incorporated under the laws of the State of West Virginia, to operate properties in this county. The directors are Samuel Granger, J. H. Beatty, Thomas Mein, E. C. Creller and Frank G. Mooser.

Placer County.

(From Our Special Correspondent.)

Golden West.—Arrangements are being made to continue development work at this mine, 5

miles south from Blue Canyon. The present work shows the ledge to be over 200 ft. wide. Assays run from $5 to $100 per ton. Three tunnels are in several hundred feet, and another on the river will be started. A water right has been located, and a flume will be built to convey water to the mill which will be erected.

Riverside County.

(From Our Special Correspondent.)

Large ledges of fine mica are reported located near San Jacinto, and arrangements are being made to develop them.

Siskiyou County.

(From Our Special Correspondent.)

The McNulty property at the northern boundry of Yreka has been purchased by the Dredger Company, to give it the privilege of dredging the river bed for gold. Price $35,000. Arrangements are being made to begin dredging operations near the Shasta River within a few months.

Several copper claims have been located in the Callaghan District, on McConaughy Gulch, about 7 miles east from Etna. A cross-cut has been made, showing a 40 ft. vein assaying 13% copper and over $3 in gold. Parallel to this ledge, about 40 ft. distant, is a ledge of gold sulphuret ore, about 6 ft. wide, assaying $5.50 per ton gold. The locators are Fort Jones men.

Wheeler Mining Company.—This company, now working on the Nehrbass Ranch, on the Greenhorn, is near bedrock, and has had to cut through boulders and handle a large amount of water. Two pumps are going constantly.

COLORADO.

Smelter Strike Ended.—The professional agitators from the Coeur d'Alene country and prominent officials of the Western Miners' Federation, who have been trying their best to keep the striking smeltermen at Denver in line, have found the job too heavy and have yielded to the wishes of the great mass of sober, industrious men in the Union who were anxious to go back to work. At a special meeting on August 14th the strike was declared off and the next morning some of the members of the executive committee were the first to apply for work at the smelters. August 15th the Globe smelter fired 7 roasters and 2 blast furnaces, and the Omaha & Grant 6 roasters and 6 furnaces. Blast furnaces will be put in operation as rapidly as possible, and by August 19th the management at the smelters expected to be running with a full force again. The men returned to work on the terms offered by the American Smelting and Refining Company.

Custer County.

Bassick Gold Mining Company.—The work of opening the lower levels of the Bassick Mine at Querida continues. It is reported that some shipments of ore from the upper levels may be made soon.

Fremont County.

Colorado & Massachusetts Gold Mining Company.—This company has 4 claims in the eastern part of the Bare Hills District. On the Dalton a tunnel has been driven 225 ft.

Quartz Wonder.—This claim was located on blowout of quartz close to Bare Hills, which had been neglected by prospectors. Recent tests are reported to show values of $15 gold per ton. Ex-Governor J. P. Saint John a short time since bought a ¼ interest in the property for $10,000. A mill will probably be erected.

South Cripple Gold Mining and Development.—This Boston, Mass., concern has 2 groups of claims, the Kingman and the Myra, on Coyote Ridge near Bare Hills. A small amount of development work has been done, and a tunnel being run to cut the vein on the Kingman group. J. L. Farrell is superintendent.

Gilpin County.

(From Our Special Correspondent.)

Sub-Treasury Mining Company.—This company has filed articles with names of F. W. Todd, R. C. Benight, C. M. Kittredge, H. W. Benight and W. F. Stone as incorporators, and capital stock of $500,000. They will operate the Sub-Treasury and Cecil claims, with R. C. Benight, Central City, as manager.

Theodore Mining Company.—A plant of machinery has been installed and the property is now in shape for development work. H. Hawkins, Central City, is manager.

Tonawanda Leasing and Mining Company.—The company employs 50 men on the Perigo, mostly on the tribute system, and is getting good results from the low grade ores in the new Perigo mill. E. M. Messiter, Perigo, Colo., is manager.

Lake County—Leadville.

Little Chief Mining Company.—At a recent meeting in New York City, the stockholders voted to reduce the capital stock from $10,000,000 in $50 shares to $200,000 in $1 shares. The reduction was due to a desire to adjust the capitalization of the company to the present value of its properties.

(From Our Special Correspondent.)

Smelter Situation.—There is little change here excepting that work is being pushed on the Union plant preparatory to starting it. It now looks as if the smelters at Denver and Pueblo would be able to resume this week on a small scale, which will be followed by general resumption, as a number of the men have broken from the union and asked for work. Manager Weddle returned from Denver to-day and says that the trouble is virtually over there, the men being tired of being led by a few agitators, and predicts a general resumption both there and at Pueblo before the 25th. The Union has 4 furnaces with a capacity of about 300 to 350 tons per day, while the Arkansas Valley smelter has 1,000 tons capacity and the Bimetallic 450 tons.

Zinc Output.—The A. Y. & Minnie will be the next regular zinc producer. Lessees Newton & Douglass have arranged for a 2,000 ton shipment to Germany. They have large zinciferous deposits in the Minnie workings.

Coronado Mining Company.—This company, whose property has been drained by the Leadville Pumping Association, will resume shipments about August 20th. It is working at the 600 ft. and also hoisting from the large iron bodies on the 520 ft.

Dolly B.—Production is to be increased and a large additional force is at work. Operations are below the 800 ft. level.

Golden Lamp Mining Company.—This combination, under the management of Mr. T. S. Wood, is operating on the Antioch, Tribune and other claims embracing 150 acres of well located ground on the gold belt. The main work consists of a tunnel being run to cut the Ibex shoots. Development and prospecting ore being carried ahead in all directions .

Independence.—Ed Harper has a fissure vein 9 ft. wide of gold bearing ore, and is sacking ore which is returning $30 to $50 to the ton. The property is 12 miles southwest of Twin Lakes.

Jay Bird.—Mansfield & Company have secured a long time lease and are sinking a new shaft 600 ft. and possibly deeper. Old workings give indications of very rich ore bodies.

Little Galesburg.—Thos. Gilroy has secured this property north of the Big Six under a long time lease, and is preparing to push development work. Gilroy formerly was one of the Big Six lessees and thinks that the gold shoot extends into Little Galesburg ground.

Midas.—This new downtown proposition has its shaft down 140 ft. and anticipates being in contact early in October. A large plant of machinery has been put in.

McComb Group.—This territory in upper Big Evans, consisting of 36 acres, is leased to a Denver syndicate under a $150,000 bond, and work will begin at once under Manager Johnson, representing the new lessees. Some work was done in the early days on the Silent Friend claim and a shaft is down 150 ft., where some rich ore was taken out. A fine plant of machinery is to be erected and a deep shaft sunk. The ground lies east of the Dolly B. and adjoins the Resurrection. The shaft will be the third deep one under way in that section, the Board of Trade and the Diamond being the other two.

Mike & Starr.—This lease, headed by John McAllister, has resumed shipments. Iron sulphides have been blocked out in places over 40 ft. thick.

Mosquito Range Tunnel.—Surveys are being made for a tunnel from the eastern slope to penetrate the Mosquito Range and tap the gold ore shoots which have been developed on the Lake County side and are supposed to extend into Park County, in the New York, London, and other mines. Denver people, headed by Mayor Johnson and a number of Leadvilleites, are interested.

Small Hopes Consol Mining Company.—Besides shipping 175 to 200 tons per day of sulphide ore, these people are pushing deep explorations on a large scale. The shaft is down 1,450 ft., where 2 stations are being cut. The main drift runs west about 300 ft. to the ore horizon.

White Cap Mine.—This Iron Hill property is being operated through its levels between 300 and 500 ft. by five different sets of lessees. Considerable ore is being taken out, several of the lessees having a lead streak which is giving them 30% with a good iron excess.

Ouray County.

(From Our Special Correspondent.)

Bachelor Mill.—Charles Armstrong, a third owner in the Bachelor Mine, has constructed a 50-ton mill near the mine at Ouray, and will treat the dump. The mill is equipped with 2 sets of high speed rolls and 4 Bartlett tables, and was designed and constructed by the Colorado Iron Works, under the supervision of Robert Humphrey, formerly of the Revenue mill.

Beaumont Sampling and Concentrating Works.—This plant is treating about 500 tons monthly of second class ore, shipments being made to the Globe Smelter, Denver. The sampler is also running nearly full time.

Black Girl.—DerProw & Hagerty are shipping 5 carloads monthly of 80 oz. silver ore from their lease on the Black Girl, 4 miles north of Ouray.

Camp Bird Mines and Mills Company.—The mill at Capacil has been doubled in capacity and will be ready in a few days. Seven Frue vanners have been put in, the tailings from which are run over three Wilfley tables with good success. A new 3-story boarding and bunk house is building to accommodate 300 men. The force of miners will be increased to 400 men in 60 days.

Caroline Mining Company.—The mine is working its usual force of 600 men, with three 8-hour shifts, and will continue on that basis, the product being shipped to Pueblo. The mill is working 12-hour shifts.

Hammond Tunnel Company.—A large force of men have been engaged constructing buildings to accommodate the miners, which will begin work shortly on the big bore to connect Ouray with Telluride.

Newsboy.—This property adjoins the Black Girl, north of Ouray, and is producing about 6 carloads of first class ore per month, besides shipping 200 tons per month of second class to the Beaumont Concentrating Works. The Newsboy is worked by its owner, M. S. Corbett.

San Juan Chief.—Messrs. Jackson et al. of Chicago were in Ouray recently and put a large force at work on this claim at Mineral Point; 100 tons of ore will be sent to the Beaumont Works for a test run.

Wedge Mines.—This company has resumed work with a full force, its employed having agreed to accept the schedule offered for 8 hours' work.

Pitkin County.

Holden Lixiviation Works.—The Aspen Union Smelting Company recently sought to declare G. W. Thatcher's lease on these works at Aspen void, and gave a lease to the Stark Mining Company. Thatcher brought suit to keep from being dispossessed and the court decided in his favor. The plant is thus tied up in litigation again.

Teller County—Cripple Creek.

(From Our Special Correspondent.)

New Mining Companies.—A number of new companies have been formed of late, among others the Orphan Gold Mining Company, the Arrow Gold Mining Company, these 2 having absorbed the property of the Orphan Belle Company, and the Black Bell Company, which owns the Black Bell claims on Beacon Hill. The directors of this company are: D. B. Firley, C. W. Fairley, J. T. Burkholder, J. H. Himebaugh, J. B. Carnes, W. H. Gandy and G. M. Carter. The Pelican Company, owning ground on Ironclad Hill, has recently been organized. The stock of a number of the new companies has been listed, or will be soon.

Doctor.—This well-known property, which has recently been secured under lease by Josiah Winchester and others, is to be subleased in suitable blocks. Work has already begun on some.

Independence Town and Mining Company.—An injunction was granted to the Wilson Creek Consolidated Mining Company, restraining the Independence from taking out ore from the conflict between the Minnie Belle lode and the Hull City placer until the case shall have been decided. The Wilson Creek people were also enjoined from taking out any ore from the same ground. These 2 companies have been fighting for some years, and the end is not yet.

Pharmacist Mining Company.—At the annual meeting the following directors were elected: A. D. Jones, J. W. Miller, S. Ben Smith, A. Hemenway and C. K. Holliday. Charles N. Miller, of Cripple Creek, made the directors a proposition, which was accepted, as follows: A new company is to be formed taking control of all the property owned by the Pharmicist, and the stockholders of the old company are to receive stock in the new company. Mr. Miller is to pay over $24,000 to liquidate all debts, and the rest to be placed in the treasury. Arrangements are not quite completed, owing to an injunction secured by some of the stockholders. It is expected that the matter will soon be settled. The Pharmicist is one of the oldest shippers in the district, and is situated on Bull Hill in the town of Altman. A large amount of ore has been shipped and some dividends paid in the early days of the camp. In the last few years the company has gotten into debt, and it is to settle these claims that the reorganization is to be made.

Woods Investment Company.—It is reported on reliable authority that this company has control of the Trachyte Company, which owns the Trachyte Claim on Bull Hill. The company now controls a number of properties, among which are the Gold Coin Mining and Lumber Company, owning the Gold Coin mine in the town of Victor; the Battle Mountain Consolidated Mining Company, owning considerable property on Battle Mountain; the Columbine-Victor Company, with property on Squaw Mountain; the Economic Gold Extraction Com-

pany, which is building a mill in Arequa Gulch for the treatment of the ores of the mines controlled by the Woods Company; the Jack Pot Mining Company on Raven Hill; the Wild Horse Consolidated Mines on Bull Hill, and the Damon Company on the north slope of Bull and Ironclad hills. The town site of Cameron is also controlled by one of the Woods companies.

IDAHO.

Blaine County.

Croesus.—The shaft of this mine at Hailey is down 230 ft., or about 600 ft. on the pitch of the vein. Three separate veins are reported cut. On the 130 ft. level the main drift is 250 ft. long and the ore from 5 to 20 ft. thick. It is pyrrohotite, the vein stuff being quartz and porphyry and the country rock granite. The ore varies in composition, some of it is said to carry 25% copper and 10 oz. gold. Spokane and Eastern parties own the property, and W. G. Paget is superintendent.

Boise County.

Boston & Idaho Gold Dredging Company.—This company is working grounds, taking in about 9 miles of More's Creek, below Idaho City. It has 1 dredger built by the Risdon Iron Works of San Francisco, in successful operation, and is building another of the dipper type. Where the dredge is working the bedrock is reached at about 23 ft., the principal values being found within a few feet of the bedrock. The new dredger will have 2 5-ft. grizzles. Rupert Winters is superintendent.

Checkmate.—Work on the new mill at Pearl has begun. The building will be 300 ft. west of the shaft, and will accommodate 10 stamps, but at first only 5 850-lb. stamps, 2 Wilfley tables and a Frue vanner and an ore crusher will be put in. The power used will be gasoline. The ore will be handled automatically. The shaft will be sunk 125 ft. deeper. The new hoist will be capable of sinking 500 ft. The lower level shows an average of 10 in. good shipping ore, besides an average of 3½ ft. of concentrating ore concentrating 5 to 1. Mr. Wyman is superintendent.

Kootenai County.

Conjecture.—This company's 20-stamp mill on Lake Pend d'Oreille is to be increased by 10 stamps more. The mill has been running but a short time. The ores are concentrated about 10 into 1, and the mill is reported to produce over a ton of concentrates daily.

Owyhee County.

Black Jack.—This mine on the west slope of Florida Mountain near Silver City, has been idle since April owing to a rush of water that stopped work, and an insufficient pumping plant. A 2,100 ft. tunnel taps the ledge 1,200 ft. below surface, and a shaft from this point is down 220 ft. Frederick Irwin of Silver City, is superintendent. The property is owned by the Idaho & Pittsburg Mining and Milling Company and, according to report, may be consolidated with the Trade Dollar holdings.

De Lamar Mining Company, Limited.—The detailed report for June states that the pump and track have been removed from the 14th level in the mine and the levels up to the 9th will be abandoned. The ore treated was 4,381 tons, which included 878 tons of tailings; it assayed $9.42 gold and 86c. silver, while the tailings assayed $2.18 gold and 51c. silver. The total income for the month was $38,892, and expenses $30,379, leaving a profit of $8,513.

Trade Dollar Consolidated.—This company's holdings now cover a strip across Florida Mountain from the Silver City side to Dewey, and include the 20-stamp mill at Dewey. A tunnel that will be about 12,000 ft. long is now being driven through the mountain from Dewey to the Trade Dollar mine workings. James Hutchinson is superintendent.

War Eagle.—Mining on this mountain, on the east side of which is Silver City, is now pretty quiet. The Poorman, Cumberland Ore Fino and others are generally idle, except that preparations are under way to open the Cumberland again, which recently changed hands.

Shoshone County.

Bunker Hill & Sullivan.—It is stated that work on the interior of the mill is nearly completed and the plant, practically rebuilt since May 1st, will soon be in operation. V. M. Clement recently inspected the property.

IOWA.

Webster County.

Fraser Coal Mines.—At these mines near Fort Dodge, only colored miners are at work. The white miners were getting a wage of 65c., with an 8-hour day. This they deemed insufficient, and they demanded 90c., with the same hours. Their demands were refused by the mine owners.

MICHIGAN.

Copper.

Calumet & Hecla Mining Company.—At the annual meeting in Boston, August 16th, the reports of the president, treasurer and auditor were presented and accepted. The following directors were elected: Alexander Agassiz, F. W. Hunnewell, Quincy A. Shaw, Jr., James H. Wright and Francis L. Higginson. The latter succeeds H. L. Higginson, resigned, who was chosen to fill the vacancy caused by the death of John L. Gardiner. That was the only change in the board.

Elm River.—A 35-drill compressor was recently ordered from the Rand Drill Company of New York City. About 165 men are employed. A townsite has been plotted and 48 dwellings will be erected at once.

Franklin Mining Company.—The new mill went into commission last week, handling rock from the 6th and 8th levels north and the 7th, 8th and 9th levels south of shaft L of the Franklin Junior.

Michigan.—Superintendent Samuel Brady has started No. 3 shaft, near the old Rockland property.

Rhode Island.—No. 1 shaft on this property is now down about 150 ft.

Iron—Menominee Range.

Lotta.—This property, on the Michigamme River, which was a promising prospect in 1892, but has been idle 6 years, is to be reopened.

Iron—Marquette Range.

Bessie.—This mine and the Boxdale at Humboldt are being unwatered and will be worked again, after several years' idleness.

MINNESOTA.

Iron—Mesabi Range.

Consolidated Mines Company.—This company, which represents John D. Rockefeller's mining interests in Minnesota, recently purchased 80 acres in section 22, 4 miles from Hibbing, for $400,000. The property has been estimated to contain 8,000,000 tons of Bessemer ore. The fee was owned by M. H. Alworth of Duluth and the Hull and Boring estates of Saginaw. In consideration of this purchase the leases of the Sellers, Hull and Townsite, of the Hibbing Mines, were consolidated, the mining company buying the latter and fixing the minimum output at 300,000 tons on a basis of 25c. a ton royalty.

MISSOURI.

Jasper County.

(From Our Special Correspondent.)

Joplin Ore Market.—There was no change from last week in the prices paid, and top grade zinc ore brought $45 per ton again, or $2 above the Association scale. Four cars of the Oronogo and 5 cars of Joplin zinc ore sold at this price, while a very large amount of ore was sold at $43 per ton. Lead was unchanged, selling at $27.50 per 1,000, as for several weeks past. The Missouri & Kansas Zinc Mining Association, at their meeting on August 7th, fixed the minimum selling price for the next 6 months at $43 per ton for 60% ore, and there seems no prospect at present of ore going lower. The buyers are apparently satisfied with the schedule adopted, and have bought all the ore in sight at the scale. During the corresponding week last year, top grade zinc ore sold at $26 per ton and lead ore sold at $23.50 per 1,000. The lead turn-in was greater than that of this week by 17,440 lbs., but the zinc turn-in was less by 3,851,900 lbs. and the value was less by $134,305. For the corresponding 32 weeks of 1898, the lead sales were greater by 5,441,974 lbs., but the zinc sales were less by 59,690,510 lbs., and the value was less by $3,202,516. As compared with the preceding week, the lead sales were less by 180,110 lbs., but the zinc sales were greater by 997,400 lbs., and the value was greater by $11,264. Following is the turn-in by camps:

	Zinc. lbs.	Lead, lbs.	Value.
Joplin	1,853,930	328,960	$48,906
Galena-Empire	2,797,340	273,470	59,615
Oronogo	1,207,060	10,740	24,752
Carterville	1,266,440	235,920	31,813
Webb City	636,350	32,260	13,594
Belleville	414,470	.....	9,326
Duenweg	361,950	12,040	7,225
South Jackson	151,270	14,680	3,419
Central City	442,160	2,879	8,923
Cave Springs	99,380	4,740	2,118
Stotts City	324,170	.....	6,970
Aurora	1,517,000	12,060	17,705
Hells Neck	204,700	4,930	4,537
Alba	438,830	.....	9,435
Granby	650,000	35,000	12,662
Wentworth	66,620	.....	1,399
Racine	31,930	.....	608
Total for week	12,463,600	967,670	$263,007
Total 32 weeks	328,428,990	29,217,716	$7,088,724

The output of the mines is closely sold up, and there is no surplus on hand. The Association seems to have the situation in hand and discontinuing night shifts at a majority of the mills will prevent the accumulation of a surplus as long as the present demand lasts. The scale adopted by the Association seems to be satisfactory to the ore buyers.

Mining Land Sales.—The Rauch & Kennedy Mine, with mill and 20 acre lease at Cave Springs, 2 miles northwest of Galena, is sold to Eastern parties for $40,000. Ohio and Virginia parties have purchased a 40 acre lease of the Dewey Mining Company north of Empire, Kan., for $15,000. A ¼ interest in the F. Lane lease, east of Rains Crusher at Galena, was sold for $2,000, and a $5,000 mill will be erected on the ground at once. A. E. Hedges and other Wichita, Kan., parties paid $3,000 this week for the lease of 8 lots in Gordon Hollow, and will build a $10,000 mill. The Ohio Mining Company has sold a ⅛ interest in its lease at Duenweg for $1,000. The Sargeant Mining Company has sold its mine and lease of 4 lots on the Dixon land at Tuckahoe to Eastern parties for $30,000. The mine produced a large amount of the finest free ore in the district, and cleared from $400 to $700 per week on hand jigs for over a year. Col. H. H. Gregg has sold his 3/20 interest in the Roaring Springs lease to J. W. Grounds for $13,500. The Cow Head Mine on the Kohinoor tract of the Empire ground has been sold through A. B. Wilgus to Eastern parties for $12,000.

MONTANA.

Beaverhead County.

Hecla Consolidated Mining Company.—More than 200 men are stated to be at work in the company's mine and smelter at Trapper Gulch, near Dillon. The company recently bought from W. B. Gaffney of Boulder 4 claims for a price reported to be over $12,000.

Cascade County.

Paragon Mining and Smelting Company.—The property of this company at Neihart was sold at auction recently for $1,536 to J. K. Castner of Belt, to satisfy a judgment for $1,535 in favor of the Kansas City Smelting Company.

Deer Lodge County.

Bell.—This claim near Warm Springs is shipping ore from an 18 in. pay streak. The values are mainly gold and lead. Six men are busy. A shaft is down 50 ft.

Consolidated B. & G.—Considerable development work is planned on this Warm Springs property. The working shaft, now 250 ft. deep, is to be sunk to 400 ft.

Free Coinage.—This Lump Gulch claim has an 18 in. pay streak of good silver ore. It is owned by A. K. Prescott of Helena, and worked under lease and bond by Heward & Brownlowe.

Kentucky-Montana Mining Company.—The Silver Butte Mine and concentrator, on the south fork of Fisher Creek, 14 miles from Vermillion, is in possession of the sheriff, though efforts are being made to clear the company's indebtedness without going through the formality of a sheriff's sale.

Granite County.

Majestic Mining Company.—In the United States Court last week Judge Knowles signed a decree in the suit of Arthur Malcolm, Trustee, against J. M. Keith, Trustee; the Majestic Gold Mining Company, and the Philadelphia Trust and Safe Deposit Company, directing the foreclosure of the properties of the Golden Sceptre Company. The order decrees that the plaintiff is entitled to receive from the defendants $19,344, with interest at the rate of 10% from the latter part of 1897, and that the claim is a first lien upon the property of the company; the group known as the Golden Sceptre Group, also the Enterprise, Minnie, Three Forks, Blacksmith Bar, Brewster Race, and Gladstone placers, and the Free Coinage, Double Standard, and Jumbo Mill sites. There are also a stamp mill, an air compressor, and an electric railway in course of construction, a quantity of machinery stored in warehouses and on freight cars with the freight unpaid, a flume 8 by 10 ft., 3 miles long, water rights, and a large quantity of town lots in the town site of Quigley. If the claims and costs are not paid within 20 days the property will be sold to satisfy the judgment, and Judge Henry N. Blake is to act as master in conducting the sale, at Phillipsburg, Mont.

Jefferson County.

E. H. Cowles of Boulder has just got his 10-stamp mill running on ore from his claims, at the headwaters of Boulder Creek. He has 35 men busy.

Nottingham.—Geo. Benjamin of Basin recently struck a good body of ore in this old property in Boomerang Gulch, and is now shipping 5 tons daily.

Lewis & Clark County.

East Helena Smelter.—At this plant, 6 miles east of Helena, but 2 stacks have been running of late, owing to a short supply of lead ores on account of the labor troubles in the Coeur d'Alene District.

Montana Mining Company, Limited.—This company has a force of nearly 250 at work in the old Drumlummon Mine near Marysvale. At the end of a tunnel which strikes the ledge at a depth of 400 ft. a tunnel has been sunk 1,200 ft. A 60-stamp mill, with Frue vanners has been idle several weeks. It is used for gold ores. A 50-stamp mill is provided with amalgamating pans and also Frue vanners for concentrates. At the cyanide plant, about 5 miles below the mill where the tailings collected by dams are treated about 50 men are employed. Frank Hallowell is superintendent. The regular monthly report for July states that the total output for July was 2,290 oz. gold and 16,450 oz. silver from 4,000 tons of ore crushed and 12,370

tons of tailings. The treatament of the tailings cost $13,771. The total income was $55,100 and expenses $49,900, leaving a net profit of $5,200.

Penobscot Mining Company.—This company, of which John Longmaid is president, owns a group of 14 claims about 1 mile above Marysvale. The country rock is slate overlying granite, cut by heavy porphyry dikes. A 20-stamp mill treats ore taken by a 1,350 ft. tunnel from 3 parallel veins. The values are mostly gold and the ore after going through the stamps is treated by cyanide. The mill handles about 86 tons in 24 hours. About 110 men are employed.

St. Louis Mining Company vs. Montana Mining Company, Limited.—As a result of the trial in the United States Court at Helena last week, the jury returned a verdict for the St. Louis Company, awarding $23,209 damages. The suit was at first for $250,000 damages, but a number of contentions were eliminated during the trial. A number of complicated legal propositions are involved, especially in reference to extra lateral rights where a vein passes in and out of the side lines of a claim. The case is considered of importance to mining men, who will await the ruling of the Circuit Court of Appeals upon some of the intricate points.

Meagher County.

St. John.—A recent shipment of ore from this claim at Copperopolis is reported to have yielded 28% copper. The vein is not well defined and the ore has to be sorted. The shaft is down 180 ft. There are 16 men busy under J. Leary, foreman.

NEVADA.

Humboldt County.

Rye Patch.—Tailings from this old mine that 30 years ago produced some very rich ore are now being worked and good results are reported.

Storey County.

Superior Gold and Silver Mining Company.—This company was recently organized to develop mining property in Crown Point Ravine, Gold Hill District, with the following directors: John McGrath, M. C. Pacheco, W. J. Thomas, W. L. Semenza, and C. L. Murphy, and John McGrath as president; W. L. Semenza, vice-president, and William Sutherland, secretary. The property of the company is below the Ophir grade wagon road and was originally located under the title of the Superior Gold and Silver Mine 30 or more years ago.

Storey County—Comstock Lode.

Consolidated California & Virginia.—Two crosscuts, 1 east and 1 west, have been started on the 1,800 ft. level; the west one will explore the ground below where the small ore body was found on the 1,750 ft. level.

Comstock Pumping Association.—On August 7th the water was 22½ ft. below the 1,950 ft. station in the C. & C. shaft.

NEW JERSEY.

Morris County.

There is more activity among the iron mines than for 7 years or more. A number of the mines that were working in 1890 will probably never be worked again, but other properties full of water since 1893 are being pumped out and will soon be producing ore. There has been a considerable movement of labor out of the district, particularly to the Lake Superior country. As a result, while enough ordinary laborers can be had, experienced miners are in demand; one mine alone—the Richards—could find room for 100 miners more without trouble.

Hurd.—At this mine at Port Oram the workings are being put into shape and the damage caused by the recent explosion has been repaired. About 90 men are employed and 120 tons of ore are shipped daily. Peter Penluna is superintendent.

Hurdtown.—At this old mine, 1 mile below Woodport, the old boiler and engine houses have been dismantled. Recently parties said to be interested in the big magnetic concentrating works at Edison leased the property, and in drifting from the old workings on the south vein found a lens of ore 9 ft. which may be an extension of the south vein. A 2 compartment shaft, down 65 ft., is being sunk to investigate the find. A boiler and a small compressor has been brought from Edison.

Mount Hope.—This mine, now owned by the Empire Iron and Steel Company, will probably be pumped out in a week, the water being down over 125 ft. Only 12 or 15 men are employed, some of them repairing the shaft, which had caved in in places during the 7 years the mine has been idle.

New Jersey & Pennsylvania Concentrating Works.—At this great plant at Edison but about 100 men are now busy. Most of the machinery is idle, as no briquettes have been made since last December. Some work is being done on the great open cut about the north side of the hill, in open cuts, where, it is said, the company is looking for richer ore than that hitherto worked. It is currently reported that the works will start running next spring.

Richards.—This mine at Port Oram employs about 300 men. It has the largest deposit of good ore in the State and has worked when other properties have closed. There are 2 veins, north and south, about 300 ft. apart, dipping at an angle of about 52°. In some places the ore is as much as 40 ft. wide. The mine produced about 150,000 tons last year and will produce fully 100,000 tons this year, a larger production being limited by a lack of skilled miners. A new shaft, to the known as No. 3, is being sunk east of No. 2, and a new brick and iron boiler and engine house is being erected between No. 2 and No. 1. The engine house contains 8 Babcock & Wilcox boilers, and a large air compressor will be installed there. The mine is worked by the Thomas Iron Company.

NEW MEXICO.

Grant County.

Copper Flat.—From this group of claims 10 tons of copper-iron ore are shipped daily to the Silver City Reduction Works by Gilchrist & Dawson.

Last Chance.—This mine in the Mogollon District is keeping its 10-stamp mill busy night and day.

Little Fannie.—Work has been resumed on this mine in Mogollon Camp, near Silver City. A new hoist, boiler, etc., are being put in. About 15 men are at work retimbering and putting the property in shape.

Native Copper.—At the Clark & Lucas claim of this group in Santa Rita District recently, porphyritic rock was struck showing much native copper. Gillett & Burnside are the referees.

NORTH CAROLINA.

McDowell County.

Graphite Deposits.—Col. John K. Connolly of Asheville, N. C., is developing graphite deposits at Round Knob.

PENNSYLVANIA.

Anthracite Coal.

Babylon.—Five hundred miners who were on strike at this colliery at Duryea, owned by Simpon & Watkins of Scranton, have returned to work.

Exeter.—The miners at this colliery of the Lehigh Valley Coal Company near Wilkes-Barre, who were on a strike 2 weeks, returned to work on the company's promise to investigate their grievances.

Tresckow.—It is stated that these collieries near Hazelton, which have been idle for 3 years, are to be pumped out and worked again, giving employment to 500 men and boys.

Bituminous Coal.

Piney Coal and Oil Company.—This company was recently organized in Bellefonte, with the following officers: President, H. Y. Stitzer, Bellefonte; secretary, J. W. Alexander, Bellefonte; treasurer, S. M. Swartz, Tusseyville; solicitor, N. B. Spangler, Bellefonte; directors, H. Y. Stitzer, S. M. Swartz, D. B. Brisbin, Centre Hall; S. G. Shannon, Philadelphia, and N. B. Spangler.

SOUTH DAKOTA.

Lawrence County.

(From Our Special Correspondent.)

British-American Mining Company.—The ore in the vertical, which is being followed down in the Butcher Gulch claim, is reported increasing in richness. Shaft is down about 65 ft.

Cleopatra Mining Company.—T. M. Lawson, president; J. L. Browne, George Erwin, E. O. Miller and H. P. Wolter, all of Aberdeen, S. D.; G. J. Jenkins of Sisseton, S. D., and J. E. McKoane of Bowdle, S. D., have been in the Hills looking over the company's property in Squaw Creek District. Manager R. B. Hughes of Rapid City has erected the steam hoist purchased of R. M. Maloney, which was used at the Snowstorm workings in Nevada Gulch. The 75 ft. shaft will be sunk 100 ft. deeper to reach, if possible, lower quartzite. Shaft is now 75 ft. deep. Considerable fair grade cyaniding ore has been blocked out by 740 ft. of crosscuts and drifts on the upper ore contact.

Galena Mining Company.—This company is sinking a shaft on a vertical of ore on the South Ruby claim, northeast of the Gilt Edge.

Kicking Horse.—D. C. Boley, representing the Golden Gate Mining Company, has bonded this claim at the head of Blacktail Gulch. The claim is owned by Matt and George Johnson and Cris Godfrey. The Golden Gate Company is planning to erect a cyanide plant near the mine.

Pennington County.

(From Our Special Correspondent.)

Black Hills Copper Company.—A new vertical of white quartz ore, 5 ft. wide, is reported found in this company's copper ground, 6 miles west of Rochford. The find was made a few feet from the south line of the British-American Company's copper ground.

TENNESSEE.

Cumberland County.

Nashville, Chattanooga & St. Louis Railway.—The company has engineers surveying a line to connect its Lebanon branch with its Bridgeport extension. The proposed line traverses the coal fields for about 30 miles.

Giles County.

Reese Phosphate Company.—This company is shipping rock from its beds in Pigeon Roost Creek Mine. The company is composed of J. T. Reese, J. T. Oakes, W. S. Abernathy and T. E. Daly, of Pulaski, and T. R. Miller of Brewton, Ala. Analysis is said to give phosphoric acid 37 77/100%, equivalent to bone phosphate 82.33%, with only 3.14% of iron oxides and alumina.

Hickman County.

About Columbia a number of new mines are being opened. Messrs. Lander & Greenlaw are digging on the Simmons farm at Carter's Creek, and M. V. Wilson has 40 hands working on the Satterfield farm. A branch railroad may be built in a distance of 2 miles.

Monroe County.

Barytes Mining.—There is considerable activity about Sweetwater in mining barytes, the shipments by rail averaging 2 carloads a day. The stuff is said to be consigned to the National Mining and Milling Company of Baltimore, Md.

Sumner County.

Sumner County Phosphate Company.—This company, recently organized at Gallatin, electing the following officers: J. M. Head, of Nashville, president; J. W. Carpenter, of Mount Pleasant, vice-president; John W. Fry, of Columbia, treasurer; Wm. I. Cherry, of Nashville, secretary; D. B. Anderson, general manager. The stockholders instructed the engineer, W. H. Spradlin, to contract for a branch railroad from the Louisville & Nashville Railroad to the phosphate fields, a distance of 3 miles. The company has 1,364 acres of land and will begin work in the mine about September 1st.

UTAH.

(From Our Special Correspondent.)

Bullion and Ore Shipments.—During the week ending August 12th there were forwarded from the smelteries of the trust 25 cars, or 1,089,646 lbs., lead-silver bullion, and 2 cars, or 82,053 lbs., copper bullion. For the same week the ore shipments out of the State from the different camps aggregated 41 cars, or 1,421,850 lbs.

Copper and Gold Yield.—A forecast in the local office of the smelter trust, recently, on the value of Utah's 1899 metal yield, placed the total above $20,000,000. This increase, likely to aggregate 100% greater than the 1898 yield, is mainly due to the enlarged copper output, with its advanced price, and the increase in the gold product. Utah may be counted on for 14,000,000 lbs. of copper and $4,500,000 in gold, while the silver and lead yield will hold up to that of 1898.

Cyaniding Products.—In July the Salt Lake City quarters of the Consolidated Kansas City Smelting and Refining Company received 10,600 lbs. of product from cyaniding mills, representing the output of these plants in the inter-mountain country, with the exception of the De La Mar's Nevada mine. In July, 1898, the total was but 5,100 lbs., so the apparent increase exceeds 100%. These cyanides or zinc slimes average over $20 per lb. Of late De La Mar's Mercur property has marketed these products in Salt Lake City, but beginning with August they will be refined at the home plant, and this will cut down the total handled by the Consolidated Kansas City Smelting and Refining Company fully one-half. De La Mar's Mercur plant is producing double the amount of gold compared with this time last year, while the increase from other cyaniding plants, whose products are marketed at Salt Lake City, is approximately 25%, compared with July and August, 1898.

Juab County.

(From Our Special Correspondent.)

Tintic Shipments.—In the week ending August 12th there were sent forward from the 3 railroad points of the district, 2 bars of bullion, 101 cars of ore and 3 cars of concentrates. The ore is to be credited as follows: Mammoth, 31 cars; Centennial-Eureka, 15 cars; Gemini, 12 cars; Humbug & Uncle Sam, 6 cars; Sunbeam, 6 cars; Swansea, 5 cars; Carissa, 2 cars; Star, 2 cars; Godiva, Grand Central, May Day, Sioux, each, 1 car; Tintic Iron, 14 cars hematite for flux. Mammoth sent out 2 bars of bullion and 2 cars of concentrates, and Sioux Mill 1 car of concentrates.

Alaska.—On or before August 20th work will be resumed. An assessment of 1½c. a share is about to be levied. It is expected to sink the shaft—now 280 ft.—to 400 ft. and do several hundred feet of drifting on vein. Exploration is to be carried on under E. P. Jennings.

Tetro.—Among several recent Tintic strikes, that of Tetro promises to be noteworthy. As the ore body was cut only 2 days ago its dimensions are not known. It is a silicious ore much like that of the Centennial-Eureka.

Summit County.

(From Our Special Correspondent.)

Alliance.—It is no longer an open secret that J. H. Conrad has the control of the stock tied up at 60c. Report is current that the transfer will be made to the Silver King.

Anchor.—A joint survey is being made with

the Daly West to prove, or disprove, the latter's contention of trespass and ore extraction by Anchor from Daly West ground. As all company maps were destroyed in the Park City fire a year ago, this is no small undertaking.

Daly West.—Salt Lake City papers are divided on a probable transfer of the control on a basis of $2,000,000 for the property. Such a deal was, if it is not still, in incubation, though the prospective purchasers have not been correctly given in type. At present it seems doubtful about tying up the majority of the shares in a pool at this figure—$13.33 1-3.

Massachusetts.—Park City for many moons has not had a genuine sensation of a bonanza ore uncovering till on August 10th Massachusetts opened into rock which some enthusiasts affirm will prove better than the Silver King. Many predicted failure when J. H. Conrad renewed exploration in this ground last year, who are foremost in congratulating him. So far the ore body is crosscut 19 ft., an upraise is driven 12 ft., and a winze is sunk 10 ft., all of which are everywhere in paying rock, running high in lead and silver with some gold.

Park City Shipments.—For the week ending August 12th the smelter products forwarded through the Mackintosh sampler aggregated 3,460,255 lbs., which were contributed as follows: Silver King, crude 1,097,505 lbs., concentrates 711,310 lbs.; Daly West, crude 710,250 lbs.; Ontario, crude 659,430 lbs.; Anchor, concentrates 209,820 lbs.; Daly lease, crude 71,940 lbs.

WASHINGTON.

Okanogan County.

(From Our Special Correspondent.)

Black Bear.—This property, at Loomis, the first location on Palmer Mountain, is having a 25 H. P. hoist set up and a 180 ft. shaft is being retimbered. A 6 ft. face is reported in the west drift and 4 ft. in the east; 600,000 of the 1,000,000 shares have been taken over by James Parks of Toronto, and $25,000 placed in the treasury for development.

Bull Frog.—On this claim, near Loomis, under the management of Del. Hart, the 130 ft. shaft is unwatered. The shaft will be continued to 500 ft. vertically, with drifts every 100 ft. to the vein. A steam hoist will soon be installed.

Osooyons.—Twelve miles south of Loomis, Van Gilder Brothers of Cape May, N. J., have taken a group of claims and started 15 men to complete a crosscut tunnel to tap the vein and sink a shaft to connect with the tunnel. The ore is gold and copper.

WEST VIRGINIA.

Fayette County.

(From Our Special Correspondent.)

Many miners, about 1,200 from the Kanawha and New River fields, have gone to Kansas and Indian Territory to take the places of strikers there and others are going, leaving many West Virginia operators very short of men. The operators along Kanawha River have advanced the price of coal from 5 to 10c. per ton, and made a corresponding increase in the price of mining.

Craven Coal and Coke Company.—A partnership has been formed under this name to work 1,000 acres of coal land leased from Capt. W. R. Johnson, on Blakas Branch of Smithers Creek. Those principally interested are E. B. Pedlow of New Straitsville, O., general superintendent of the Columbus & Hocking Coal and Iron Company, and C. C. Sharp of Corning, O., general superintendent of the Sunday Creek Coal Company. B. F. Homan of New Straitsville, O., has been appointed manager. The plans for tipple, etc., have been prepared and work of development will be begun at once. The No. 1 or "Eagle" seam, and No. 2 or "Gas" seam will be worked. The No. 1 seam opening is on a level with the creek bed, and the No. 2 about 150 ft. above. The former will be worked with a slope and the latter by an incline, and the cars dumped automatically.

FOREIGN MINING NEWS.

AFRICA.

Rhodesia.

The Rhodesian Chamber of Mines reports the total gold production for June at 6,104 oz. For the six months ending June 30th the total output was 36,204 oz. In 1898 no production was reported for the first half of the year.

ASIA.

India—Mysore.

Colar Gold Field.—The total production of gold for the month of July is reported at 37,174 oz., against 34,667 oz. in July of last year. For the seven months ending July 31st the total was 244,087 oz., against 241,830 oz. in 1898; showing an increase of 2,257 oz., or 0.9%, this year.

AUSTRALASIA.

New South Wales.

The gold output reported July was 64,700 oz. For the seven months ending July 30th the total production was 249,700 oz., showing a large increase over 1898.

New Zealand.

Exports of gold and silver for May and the five months ending May 31st are reported as below, in ounces:

	Gold		Silver	
	1898.	1899.	1898.	1899.
May	15,444	25,962	29,969	31,628
Five months	100,132	152,123	102,320	139,230

For the five months there was an increase of 51,991 oz., or 51.7%, in gold; and an increase of 36,910 oz., or 36.2%, in silver.

Queensland.

The Mines Department reports the gold production for June and the six months ending June 30th as follows, in ounces:

	1898.	1899.	Increase.
June	85,246	86,072	826
Six months	427,661	451,461	23,800

Of the June yield 84,225 oz. were from quartz mines, and only 1,847 oz. from placer or alluvial workings.

Tasmania.

Mount Lyell Mining Company.—This company reports for the four weeks ending July 26th a total of 21,590 tons ore smelted, the product being 780 tons blister copper, containing 770 long tons fine copper, 65,779 oz. silver and 2,206 oz. gold. The average return was 3.57% copper, 3.05 oz. silver and 0.10 oz. gold to the ton. There were 2,317 tons purchased ore smelted during the four weeks.

CANADA.

British Columbia.

New Gold Fields of British Columbia.—In the report for the past year, as published in London, the directors state that they have made a cash profit of £17,381, to which has to be added £4,334 brought forward, making a total of £21,715. This sum, after deducting the amount of the interim dividend paid at the rate of 10% per annum, leaves a balance of £18,702, in addition to which there is a further profit of £2,916, derived from premium on shares sold. This latter amount, together with £2,084 transferred from profit and loss account (making £5,000), has been carried to a reserve fund, and the directors recommend a balance dividend at the rate of 20% per annum, tax free, for the half-year ending with June, which, with the additional remuneration due to the directors, and allowance for income-tax on profits, will leave a balance of £8,212 to be carried forward.

British Columbia—Nelson.

Hall Mines, Limited.—This company reports for the four weeks ending August 11th that the smelter ran 22 days 20 hours, treating 5,083 tons of ore. The yield was matte containing 81 tons copper and 55,000 oz. silver; an average of 1.59% copper, and 10.98 oz. silver to the ton.

British Columbia.—West Kootenay District.

Grand Forks Smelter.—Work on the new smelter at Grand Forks progresses rapidly. Work on the dam to furnish water power has begun and the foundations of the smelter are completed. The Westinghouse Electric and Manufacturing Company of Pittsburg, Pa., will furnish 2 alternating current generators of 180 K. W., equivalent to 231 H. P. capacity each. The generators will be connected direct with 250 H. P. turbine water wheels. A 30 H. P. direct current generator for a lighting plant will be connected with a water wheel. The current will be carried on wires 5,000 ft. to the reduction works, 125 ft. above the river. The works will have 7 different sized induction motors, in various portions of the smelter building to run machines.

(From Our Special Correspondent.)

Rossland Ore Shipments.—The output from January 1st to August 10th amounts to about 84,000 tons.

East Le Roi.—Sinking in the Nickel Plate continues to the 300 ft. level.

Evening Star.—Work on the winze from the lower tunnel of this Rossland mine is progressing under the direction of Roy H. Clark. About 12 men are employed.

Gertrude.—The management of this Rossland mine is cross-cutting at the 200 ft. level without substantial results.

Great Western.—The boilers and engine at this Rossland mine have been bricked in and the new gallows frame is nearly finished.

Homestake Gold Mining Company, Limited.—The annual meeting was held August 9th at Rossland. The location is said to be the oldest in Rossland, having been made May 10th, 1890. The next oldest is the Lily May. According to the directors' report the present company did not begin operations until all matters of the old company were settled. About March 20th, 1899, work began on the 200 ft. level, where a fault was found. Beyond this fault the level continued west 277 ft. on the apparent hanging wall. A number of crosscuts at intervals of 60 ft. cut a vein of ore 3 to 5 ft. wide. At the fault a drift was run south 92 ft., encountering a second vein, which was followed west 106 ft. A number of assays have been taken showing high values in silver. Total amount of drifting, 950 ft.; cost per foot net, $13.32. Total expenditure on mine to date, $32,602.

Virginia.—The annual meeting was recently held in Rossland. The superintendent's report stated that at 200 ft. south and 100 ft. east of the shaft house a vein of rich ore 5 ft. wide has been located. Two shafts 50 ft. apart have been sunk on this vein, 95 ft. The ore goes from $8 to over $100 per ton, and will average, it is thought, $25. The management has begun to drift at the 350 ft. level for this alleged ore. No intimation of this discovery was made until the meeting.

I have examined the alleged discovery. Two cuts about 25 ft. deep, southeast of the shaft 600 ft., show a ledge which does not differ materially from that already found. In one of the cuts there is exposed a narrow seam of particularly vitreous quartz mineralized with the typical iron and copper ore of Trail Creek, but there is as yet no appearance of any extensive pay streak. Three or four men are at work in these cuts.

Nova Scotia—Cape Breton.

Dominion Coal Company.—The fire at this company's Caledonia Colliery is well under control and is stated to be diminishing daily. Over 900 tons of coal are now raised from the pit every day.

General Mining Association.—It is stated that this, the oldest coal mining company in Cape Breton, will be consolidated with the Nova Scotia Steel Company of New Glasgow, and large blast furnace and steel works, including a rail mill and ship building plant will be erected at North Sydney. The Nova Scotia Steel Company has iron mines at Belle Isle, Newfoundland.

Ontario—Rainy Lake District.

(From Our Special Correspondent.)

Headlight Gold Mining Company.—This company, operating what is known as the Swede Boy Mine, has sunk its main shaft 85 ft. and is drifting to reach several veins. It has found a 14-in. vein, not visible on surface, that runs up to $90 to the ton. By a drift of 110 ft. the miners expect to cut four veins, one of which is 12 ft. wide at surface. The vein on which the shaft has been sunk was at surface 4 ft. wide, and now shows 5½ ft. quartz and 6 ft. of banded quartz and slate. This mine is 4 miles east from Olive.

Island Falls Mines Company.—This new company has been formed to take over 800 acres of selected lands near Island Falls, on the upper Seine River, 50 miles east of the group of mines near the Golden Star. It has a capital of $1,500,000. The company expects to begin work this fall. Its lands are surrounded by those of half a dozen English, Scotch, New York and Montreal concerns that are pursuing their work very quietly. John H. Hill, of West Superior, Wis., is president of the Island Falls Mines Company.

Randolph Gold Mining Company.—This company, whose offices are at West Superior, Wis., is sinking 4 ft. daily, and has installed a steam hoist.

Sturgeon Falls Water Power.—It is reported that as the result of the visit of J. J. Durage of Duluth, the owners are to improve it for the use of the Alice A., Gold Bug, Emma Abbott and Lucky Coon mines.

Ontario—Rat Portage District.

(From Our Special Correspondent.)

Anglo-Canadian Gold Estates, Limited.—Alan Sullivan has started a party of prospectors on the property held by the company, 70 miles southeast of Rat Portage. The company's headquarters are in London, Eng., and the Canadian office at Rat Portage. The directors are well-known West Australian and South African financiers, and it is intended to form subsidary companies as soon as sufficient development work has been done to warrant such organization.

Mikado.—This property is producing $17,000 per month with a 20-stamp mill. The main shaft is now down 250 ft. and 4,000 ft. of drifting has been done in the 2 shafts.

Sultana.—This property has been sold by the British Capital Corporation, Limited, who acquired it from John F. Caldwell, for £450,000. Of this sum £200,000 will be in fully paid up shares, £10,000 in first mortgage bonds, and the balance in cash. The stock is being offered in London. Mr. Caldwell has received £75,000 in cash and a large block of stock. The property was reported on by A. Crover and G. Neustaedter. It comprises about 70 acres. The vein matter is 30 ft. wide on the surface, and averages about $7 to the ton. It is estimated that there is £3,375,000 in sight. The gross output for 1897, 1896 and 1895 averaged $3,000 per week with a 10-stamp mill; with the 30-stamp mill now running a profit of $151,000 per annum has been made. It is the intention of the new company to erect 70 more stamps, to sink another shaft south of the present one, and to continue sinking the main shaft to a depth of 700 ft. The cost of sinking is given at $30 a foot, and drifting at $12 per foot.

Ontario—Sudbury District.
(From Our Special Correspondent.)

The Canadian Copper Company is opening up 2 new mines, and building an experimental smelter 1 mile from the old plant, to reduce the ore without a preliminary open-air roast. The Sault Ste. Marie Pulp and Paper Company has a number of men getting out ore from the company's nickel property in the township of Creighton. Tough & Stobic have been doing some more surface work on their property in Levac, on which apparently is a vast deposit of nickel ore. A. McCharles is preparing to open the nickel property discovered by him last year in the township of Snider within 8 miles of Sudbury and 4 miles from the railway. The outlook has improved wonderfully of late, and there is now very little danger of any one company getting a monopoly of nickel mines.

MEXICO.

Jalisco.

Santa Rosalie Mining Company.—This company has been incorporated under the laws of the State of New Jersey, with offices in Jersey City and New York, to work a group of 5 mines in the canton of Authan. Two of the mines are said to be gold and 3 copper, 1 being the Los Chinos. The directors are: Ex-Governor George T. Werts, John A. Fitzpatrick, Philadelphia; Thomas B. Adams, John R. Joslyn, Allan G. Macdonell, William A. Hoenig, Guadalajara, Mexico; Arthur B. Flynt, Guadalajara, Mexico; James Cooper, Philadelphia; Arthur Coleman, Mexico; John F. O'Connell, Philadelphia; Anthony T. Brennan, Henry Henken, New York.

SOUTH AMERICA.

Venezuela.

The State Department has received from Consul Plumacher, of Maracaibo, under date of June 23d, 1899, translation of a recent act of the Venezuelan Government renting the coal mines, railroads, and wharves of Guanta (State of Bermudez, Bolivar District) to Lanzoni, Martini & Company, of Rome, Italy. The contract, it appears, is to run for 15 years, and the company will pay 104,000 bolivars (the bolivar is 19.3c.) annually in monthly installments and 50 centimes for every ton of coal extracted, this money to be reserved, in order to meet any future claims on the property. The company is not to increase the price of the coal used by the Government on its ships, which price is to be 25 bolivars per metric ton. The railway rates are to remain as at present. The Government is to keep closed, during the period of the contract, the port called El Rincon, or Gusman Blanco, except for such articles as earthenware, wood, fish, vegetables, and the like, that can not pay the landing and railway charges. The State of Bermudez and the Government are to have a rebate of 50% of the passenger tariff for their employees on commission and on freight. Mail is to be carried by the railroad free. Work is to be begun within 4 months and finished in 8 months more. Exemption from duties will be granted to the machinery and articles used in the exploitation of the mines and railway. Work is not to be suspended for more than 6 months, under a fine of 20,000 bolivars. A guaranty of 50,000 bolivars is to be deposited in bank by the company, to be forfeited in case of non-execution of contract. The contract can be renewed for a further period of 10 years after the expiration of the 15 years if the company has complied with all the conditions specified. Native labor is to be preferably employed. The enterprise is to be free from taxes and employees are to be exempt from military service.

COAL TRADE REVIEW.

New York Aug. 18.

Anthracite.

As was to be expected, the market is now a waiting one, and little buying is expected until well into September. The July production is stated to have been 4,170,000 tons, a rather surprising figure. As it is always hard to shut off production when well under way, it remains to be seen how well the producing interests will keep their output down to their estimate for this month. Evidently, the situation is not as unfavorable to the buyer as it might be.

Unrest among the miners is particularly prevalent in the Wyoming Valley. The Delaware, Lackawanna & Western miners have asked for a reduction in the price of powder, the company's price for this being a very old cause of complaint. The company has declined to make a wholesale reduction in the price, as it would amount to a substantial increase in the mining rate. Coal is bringing more money than a year ago, but the nominal price is about the same, while the companies must pay more for all supplies. The miners' wages are no higher, but they are busier and their total earnings much greater. The situation is a delicate one and requires careful handling.

Coal is moving more freely in Chicago territory and at the head of the lakes. The steady rise in vessel rates is evidence that the consumer cannot hope to get his coal cheaper by waiting. Rates from Buffalo are now up to 80c. to Chicago and 60c. to Duluth, and we hear of a permanent change in methods of forwarding coal, because vessels prefer to go up the lakes in ballast. But last year vessels were glad to carry coal for 20c. and there is nothing to show that in a year or two they will not carry it again at that figure. At Buffalo trade is still quiet and at Boston, New York and Philadelphia the demand is very light.

We quote for free burning anthracite f. o. b. New York: Stove and nut, $4; egg, $3.75; broken, $3.40; pea, $2.20@$2.35; buckwheat, $1.75@$2.20; rice, $1.35@$1.70.

Bituminous.

The demand for soft coal keeps producers who supply the Atlantic seaboard on the jump. The supply of vessels at the shipping ports is a trifle better but a short supply of cars at the collieries prevents producers from catching up with orders.

The labor situation in West Virginia and Maryland shows nothing of moment yet. The demand for miners, particularly from points in the Southwest, has led to a great movement from the Kanawha and other fields in West Virginia. In Maryland the Georges Creek miners are talking of certain demands, but they have steady work and big veins of coal, so they are able to get good pay.

The demand for coal is still most pressing from points east of Cape Cod, but Long Island Sound and New York Harbor business is brisk. Producers continue to put off orders from the all-line trade to get coal forward to seaboard points.

Transportation from mines to tide continues good. Vessel supply has improved so that rates have become slightly easier. We quote current rates from Philadelphia as follows: Boston, Salem, Wareham and Portland, 80c.; Providence, New Bedford and the Sound, 70c.; Bath and Portsmouth, 85c.; Dover, $1.25 and towages; Gardiner, 90c. and towages; Bangor, $1 and towages.

Birmingham Ala. August 14.
(From Our Special Correspondent.)

Indications point to some trouble this winter at the coal mines as to railroad cars. The railroads are making efforts to prepare themselves for the emergency and are renting cars from other roads. The demand for the product of the mines during this coming winter promises to be heavier than ever before. The new mines being opened will not be able to meet the increased demand for the product in sight already. The product is getting a better price, also, but the advance in wages to the coal miners about equals the increased price. All the operators are making preparations for the winter trade. All the coal that can be mined seems to find a ready sale and many of the smaller companies are filling contracts taken by the larger concerns. Miners are in demand at some places, but as a general thing the operators make no complaint. The miners are at work at every mine in the State except at Brookwood, in Tuskaloosa. The company at that place refused to sign the scale of the United Mine Workers, claiming that there is a differential between the wage at Brookwood and that at the Pratt mines which is unjust to them. The president of the United Mine Workers of America in this State has called on miners throughout the district to assist in aiding the striking miners, and it appears as if the miners will be able to remain away from the work as long as the company wishes them to. The latter claim that it will be unprofitable for them to run the mines and have the big wage to pay. As long as the Clifton Iron Company's furnace is idle, because of necessary repairs, the mines at Brookwood can remain idle, most of their product going to that institution.

The Sloss Iron and Steel Company is about ready to operate its new mines near Brookside. The Tennessee Coal, Iron and Railroad Company has almost finished the opening of the new mines at Pratt City.

There are quite a large number of coke ovens in blast in this district now, and more are building. The demand for coke is lively as long as the furnaces remain in blast.

Pittsburg. Aug. 16.
(From Our Special Correspondent.)

Coal.—A further advance of 5c. a ton has been made in the price of 1¼-in. coal on contracts taken during the week. The shipments this week were heavier than last week, but operators are not satisfied with the railroad car supply. There is a shortage and some leading shippers fear they will be unable to get all their northwestern contracts filled before the close of the lake season. The long-expected rise in the rivers has not come and 16,000,000 bushels of coal are loaded ready for shipment to Southern ports. The last shipment to the South was made on May 15th. The usual rise in June or July did not come this year and coal has accumulated. Operators would load more coal for the next rise but all the available craft had been loaded. Owing to the unusually low rivers it is impossible to get empty boats and barges back from the Southern ports.

The railroad coal combination is progressing favorably, but slowly. The options on the different properties to be taken in expire on August 30th, but can be renewed if it is found impossible to close the deal by that time. Operators who gave options are bound by an agreement not to engage in the coal business for a period of five years if their properties are purchased.

Connellsville Coke.—The production and shipment of coke is as great as it has been during the past few weeks. All the ovens that are in shape are being operated to their fullest capacity. The car supply through the week was very poor and there is no indication of improvement. There were no ovens fired and none were put out of blast during the week. The shipments last week aggregated 10,869 cars, distributed as follows: To Pittsburg and river tipples, 3,599 cars; to points west of Pittsburg, 5,453 cars; to points east of Connellsville, 1,815 cars. This is an increase of 176 cars as compared with the shipments of the previous week.

Shanghai, China. July 10.
(Special Report of Wheelock & Co.)

Coal.—Stocks of Moji Japan coal awaiting shipment are enormous, particularly of the common qualities, for which no market can be found. The output of better kinds is pretty well contracted for. Freights have fallen considerably. Nothing doing in Cardiff. Much competition in Sydney Wollongong among natives. Arrivals of all kinds of coal during the fortnight aggregated 33,818 tons. Quotations per ton are as follows: Welsh Cardiff, 13.50 taels; Australian Wollongong, 11.50 taels for steamer cargo, and 5.75@6 taels for other sorts; Chinese Kaiping, lump 7 taels, dust 5.60 taels, and mixed 5.60@6.50 taels; Japan, all contracted for.

Kerosene Oil.—The price for American Devoes has risen considerably, as much as 1.77½ taels less 2% being asked by importers. Demand at the moment is strong, stocks being enormous, and about 900,000 cases. There were no arrivals during the past fortnight. Russian Batum has also advanced in sympathy with other kinds, prices asked being about 5 cands. higher than our last quotation. Stocks are 440,000 cases. Sumatra Langkat has improved, and is now salable at 1.52 taels per two tins, bulk oil being retailed at the tanks at 12½c. per gal. For American Devoes we quote 1.73½ taels per case, and for Russian Batum Chops, 1.55@1.57½ taels.

SLATE TRADE REVIEW.

New York. Aug. 18.

The home market is growing, and it looks as though exporters will be unable to secure the slate necessary to fill their orders. Production is increasing, and there is talk of a revival in the Georgia slate belt. It is intended by the Georgia Slate Company, which controls nearly all the quarries in the State, to enter the market in the middle West. It is claimed that this can be done in competition with the Pennsylvania quarries, as the difference in transportation from Rockmart, Ga., will be fully made up by the cheaper cost of labor in Georgia, estimated at 25@35% less than Pennsylvania. The Georgia slate is chiefly black in color, similar to Peach Bottom, and it is said contains a smaller percentage of iron, making it very suitable for electrical purposes. Pennsylvania people claim that Georgia slate is hard to split. The production of roofing slate in Georgia last year amounted to 3,845 squares, having an average value of $3.80 per square. No mill stock was produced.

In export trade there has been a perceptible falling off in shipments, owing to the difficulty of getting slate at quarries. This condition has aroused some consternation between the exporter and quarryman, and further talk is heard of law suits to recover damages. Meantime exporters are making every effort to carry out their agreements with the foreign buyers, and it is also noticeable that quarrymen are not anxious to renew orders at the old figures.

In July the exports of all kinds of slate from New York amounted to $65,474, showing a decrease of $3,357 as compared with the previous month, and $28,059 less than July, 1898. This falling off was due largely to the smaller shipments to the United Kingdom. That country received in July approximately $38,759, nearly all roofing slate with the exception of 170 boxes billiard slabs and a small lot of manufactured slate. Australia, on the other hand, shows an increase, having received in July $18,754 worth of slate, principally roofing. Denmark also records an increase, and of the shipments to that country there were several lots of blackboards and billiard slabs, which went to Copenhagen. We note a shipment of 35 cases school slates to Shanghai, China, the second lot so far this year. Germany imported only a small quantity of roofing slate in July, while Africa received only 59 cases of school slates. The shipments to Central and South America, Mexico and the Indies were somewhat better than June, and include besides school slates, two lots of roofing slate. A shipment of 140 cases of school slates was also made to the British East Indies in July. Halifax, Nova Scotia, imported 200 packages of roofing slate. Rotterdam, Holland, is credited in our exports with 16 cases ($150) of manufactured stock.

So far August has been very quiet for the export trade, and the shipments already made have been below July. The freight market seems to hold firm, though rates are nominally unchanged, as follows, from New York:

To London, 12s. 6d. ($3), or about 86c. per square roofing slate; Liverpool, 12s. 6d.; Manchester, Bristol, Leith and Glasgow, 15s. ($3.60), or $1 per square; Hamburg, 12s. 6d. prompt, and 15s. near future; Copenhagen, 16s. 3d. ($3.90), or $1.11 per square; Newcastle and Hull, 17s. 6d. ($4.08), or $1.47 per square; Denmark, Stettin, 17s. 6d., all with a 5% primage per ton weight. To Bremen the rate is 15s. net ($3.60), or $1 per square. To Sydney, New South Wales, 15s. net is asked for roofing slate in cases or in bulk.

The list of prices per square for No. 1 slate standard brand f. o. b. at quarries is given below:

Prices of Roofing Slate.

Size, inches	Monson or Br'nville.	Bangor.	Bangor Ribbon.	Alb'n, or Jackson Bangor.	Lehigh.	Peach Bottom.	Sea Gr'n.	Unfad'g Green.	Red.
	$	$	$	$	$	$	$	$	$
24 x 14	6.10	3.50	3.00	3.35	3.40	4.85	3.00	.....	.....
24 x 12	6.60	3.50	3.00	3.35	3.40	5.00	3.00	3.75	.....
22 x 12	6.60	3.50	3.25	3.50	...	5.00	3.00	3.75	.....
22 x 11	6.50	3.75	3.25	3.50	3 40	5.00	3.00	4.00	.....
20 x 12	6 90	3.75	.....	3 50	3 40	5.00	3.00	3.75	.....
20 x 11	6.80	.....	.....	4 00	...	5.00	3.00	.....	.....
20 x 10	6.80	4 50	3.50	4.00	3.75	5.10	3.25	4 25	9@10½
18 x 12	6.80	3 75	.....	3.50	.....	...	3.60	3.50	.....
18 x 11	7.00	.....	.....	.....	.....	...	3.00	3.75	.....
18 x 10	7.20	4.50	3.50	4 00	3.75	.....	3.00	4.00	9@10½
18 9	7.10	4.50	3.50	4.00	3.75	5.10	3 00	4 25	9@10½
16 x 12	6.80	3.75	.....	3.50	.....	.....	2.85	3.50	.....
16 x 10	7.10	4.25	3.50	4.00	3.75	5.00	2.85	4.00	9@10½
16 x 9	7.00	4.25	.....	4.00	3.75	5.10	2.85	4.25	9@10½
16 x 8	7.20	4 50	3.50	4.00	3.75	5.10	2.85	4 25	9@10½
14 x 10	6 60	3.75	3.25	3.35	.....	5 00	2.75	3.75	9@10½
14 x 9	6.50	.....	.....	.....	.....	.....	2.75	3 75	9@10½
14 x 8	6 60	3.75	3 25	3.35	3.40	4.85	2.75	4.25	9@10½
14 x 7	6.40	3.75	3 25	3 35	3.40	4.85	2.50	4.25	9@10½
12 x 10	5.80	.....	.....	.....	.....	.....	2.50	3.25	.....
12 x 9	5.60	.....	.....	.....	.....	.....	2.50	3 25	.....
12 x 8	5.50	3.50	.....	3.35	3.25	4 60	2.50	3.50	8½@9
12 x 7	5.00	3.25	.....	3.35	3.25	4.60	2.50	3 50	8¼@9
12 x 6	4.80	3 25	.....	3.35	3.25	4 50	.....	3 50	8¼@8½

A square of slate is 100 sq. ft. as laid on the roof.

In Brownville and Monson delivery quotations can be had somewhat lower than above, which is also true of other brands. No. 1 Bangor are 50c. extra when full 3/16 in. thick, and Peach Bottom 25c. extra per square. Intermediate sea green, $2.25@$2.45 per square, according to size.

CHEMICALS AND MINERALS

(For further prices of chemicals, minerals and rare elements, see page 240.)

New York. Aug. 18.

Heavy Chemicals.—The larger part of the orders being booked now are for next year's delivery, particularly for soda ash. Several new alkali plants are talked of, the latest being that of the Columbia Chemical Company to be erected at Barberton, O. Pittsburg glass people are said to be interested in this enterprise. Sal soda is in better request, and up to 90c. per 100 lbs. f. o. b. works is asked by domestic makers, while importers are quoting 67@70c. Chlorate of potash and bleaching powder are quiet. Of the latter, imports at New York this week were 361 casks, in better request, and up to 90c. per 100 lbs. f. o. 25 boxes and 58 kegs English, 52 bbls. Belgian and 100 drums German. Receipts of domestic chemicals included 415 sacks, 200 kegs and 28 bbls. alkali and 395 drums caustic soda. Several small lots of soda ash and bicarb. soda were exported, mostly to Australia, though some went to Central and South America.

Articles.	Domestic.		Foreign.
	F.o.b. Works.	In New York.	In New York.
Alkali, in bags.	67½@70c.	80@85c.	80@85c.
Caustic Soda, high test	$1.50@$1.65	$1.60@$1.65	$1.60@$1.70
98% powd.	.....	2 75@ 3.00	.....
60@74 % powd.	.....	2.12½@ 2.25	.....
Sal Soda	80@90c.	.....	67@70
" conc.	1.35@1.60	.....	1.60@1.65
Bicarb Soda.	1.12½@1.25	.....	2.12½@2.25
" " extra	3.25@3.50	.....	
Bleach. Pdr., Eng. prime.	.....	.....	1.42½@1.50
other br'nds.	.....	.....	1.25@1.35
Chl. Pot cryst	.....	9.00@9.25	9.25@9.50
" powd.	.....	9.25@9.50	9.50@9 75

Prices are generally for large quantities, and in many cases depend upon make, test and package.

Brimstone.—Demand is regular, and prices remain $22 per ton for best unmixed seconds on spot, and $20.50@$20.75 for shipments, while thirds are $18.50@$18.75. The shipments of brimstone from Sicily for the fiscal year ending June 30th, 1899, were 428,023 long tons, an increase of 26,114 tons as compared with 1897-98. The United States imports in 1898-99 were 63,048 tons less than 1897-98, while nearly all the other countries showed an increase. Of the shipments in the fiscal year ending June 30th, 1899, France received 97,458 long tons, against 85,775 tons in 1897-98; Italy, 70,507 tons, against 56,375 tons; Germany, 25,393 tons, against 21,492 tons, and Great Britain, 18,935 tons, against 21,210 tons. The stocks of brimstone in Sicily at the close of the fiscal year were 185,269 long tons, showing an increase of 56,468 tons over the last fiscal year. It is not thought abroad that these increased stocks will affect the market, as an improved demand is looked for in the vine-growing countries of the European Continent, particularly France, Germany and Italy. The consumption in the United States is also expected to increase, notwithstanding the decreased importations so far. We note a British steamer of 2,000 tons has recently been chartered abroad to carry brimstone from Sicily to Portland, Me., at 9s. Arrivals at New York this week amounted to 1,450 tons.

Acids.—Better demand prevails for most acids, and the outlook for the next five months, especially for sulphuric acid, is encouraging. Stocks of sulphuric acid in makers' hands are reported light. Holders of muriatic acid are asking 5c. more per 100 lbs., and blue vitriol is also stronger in sympathy with the raw material market.

Quotations are in large lots delivered in New York and vicinity, per 100 lbs unless otherwise specified.

Acetic, com. No 8.	$1.50	Nitric, 38°.....	$3.75@ 3.80
Blue Vitriol, best	5 25@ 5.50	Nitric, 40°	4.0 @ 4.05
Chamber, 50°, ton.	11.50@12.00	Nitric, 42°.....	4.62@ 4.65
Muriatic, 18°.	1.50@ 1.10	Oxalic	. 6.25
Muriatic, 20°.	1.25@ 1.30	Sulphuric. 66°....	1.10@ 1.15
Muriatic, 22°.....	1.40@ 1.50	Sulphurous, 100%	
Nitric, 36°	3.50@ 3.55	SO_2 anhydrous.	8.00@10.00

Pyrites.—Increased operations are noticeable in the various producing centers, and the demand continues good at practically unchanged prices. We quote American pyrites as follows: Mineral City, Va., lump ores, $3.25 per long ton (basis 42%), and fines, $3; Charlemont, Mass., lump, $5.50, and fines, $4.75; Pilley's Island, lump, $6.50, and fines, $4.50 per long ton, delivered in New York. Spanish pyrites, 12@14c. per unit, according to percentage of sulphur contents, delivered ex-ship New York and other Atlantic ports. Spanish pyrites contain from 46% to 51% of sulphur: American, 42% to 44%, and Pilley's Island, N. F., 50%.

Fertilizing Chemicals.—The market is expectant; buyers are looking for lower prices, as packers of animal ammoniates are said to be accumulating stocks. Sulphate of ammonia on spot is higher, while for shipment $3.12½@$3.15 per 100 lbs. for gas liquor is heard. During the week only 250 bags of sulphate of ammonia came to this port, in addition to 1,000 bags of muriate of potash and 257 tons of kainit.

Articles.	F. o. b. Wks.	In N. Y.
Potash, muriate, 80@85%.	100 lbs.	$1.78
" 95%	"	1.81
" sulphate, 90%	"	1 98½
" 96%	"	2.10½
" d'ble m're salt, 48@53%	100 lbs.	66c.
" " " " 30%	"	89c.
" kainit, 12.4%.	long ton.	8.70@8 95
" sylvanit.	per unit.	37@38c.
Sulph. Am., gas (25%)...	100 lbs.	3 15@3.20
" " bone	"	3.00@3.15
Blood, dried, h-gr, Chi.	per unit	$1.77½@1.80
" " " N.Y.,	"	1 82½@1.85
Azotine	"	1.85@ 1.95
Bone black, diss., 17@18%.	ton	16.0 @16.50
Fish scrap, acid	"	10.50@11.00 12 50
" " dried	"	19 50@20 21 50
Tankage h. gr., Chicago....	"	14.50@15.00 21.00
" concentrated..	unit.	1.45@1.50 1.90@1.95
" bone.	ton.	20.00@21.00
Bone, ground.....	"	23.50@25.00

The quotations on potash are on the basis of foreign invoice weights, tares and analysis, in quantities of not less than 500 tons bulk salts or 50 tons concentrated salts.

Nitrate of Soda.—Very quiet. Arrivals were the "Mohican," with 13,261 bags, and "South Africa," with 39,600 bags; total, 52,861 bags. Spot is quoted $1.60 per 100 lbs., with buyers at this figure. Future shipments are $1.60@$1.62½, according to position. The coast and European markets are unchanged, being quiet. The Permanent Nitrate Committee reports the total exports of nitrate of soda to Europe in July at 1,705,000 qtls., against 1,396,000 qtls. in June. Loadings for Europe, August 1st, were 1,533,000 qtls., as against 1,778,000 qtls. July 1st. Imports in Europe in July were 79,250 tons, showing an increase of 28,050 tons over June. The deliveries in July were 56,740 tons, against 67,920 tons in June. The visible supply in Europe, August 1st, including stocks and afloat, was 349,770 tons, against 335,140 tons July 1st and 339,800 tons June 1st.

Phosphates.—The producing districts are active, and the shipments are increasing. The Florida pebble miners are very busy filling orders on hand, and the high grade people are also pushing work, though the export market is quieter. The shipments of Florida high grade rock in July amounted to 48,747 long tons, all for the foreign market. For the seven months ending July 31st, 1899, these shipments are reported by Messrs. Auchincloss Brothers at 283,624 tons, against 211,909 tons last year. The distribution was as follows: United Kingdom ports, 23,597 tons (against 23,735 tons in the seven months last year); Baltic ports, 79,810 tons (against 56,647 tons); Continental ports, 168,845 tons (against 120,306 tons); Mediterranean ports, 5,699 tons (against 8,579 tons); domestic and other ports, 5,673 tons (against 2,642 tons). The domestic shipments of phosphates from Charleston, S. C., from September 1st, 1898, to August 4th, aggregated 99,064 tons, against 89,470 tons in 1897-98. Charters taken recently include the British steamer "Nithsdale," of 1,198 tons, from Tampa to Ghent at 19s., August sailing; one of 1,558 tons from Fernandina to Hamburg and Rendsburg at 19s., and one of 1,350 tons from Fernandina to Rotterdam at 17s. 6d. During the week we imported 2,500 bags of phosphates from Antwerp, Belgium. Reports are current that the Navassa Phosphate Company of Baltimore, will resume operations on the Island of Navassa. Swift & Company of Chicago have purchased 370 acres of phosphate land near Spring Hill, Tenn.

In the European market American phosphates are quoted as follows: Florida high grade rock, 9¼d. per unit ($14 per long ton); Florida land pebble, 8d. ($11.20 per ton); Florida Peace River, 7½d. ($9 per ton); Tennessee, 78@80%, 7¼d. ($11.85 per ton). Algerian, 63@70%, is quoted 7¼d. (or $9.38 per long ton), and 58@63%, 6¾d. ($7.80 per ton).

We quote: Florida high grade, 75@80% rock, $10 per long ton f. o. b. Fernandina. The freight rate to New York is about $2 per ton. Florida land pebble, 68@73%, $7@$7.50 per ton, delivered in New York. Florida Peace River rock, 58@63%, $4.50 per ton f. o. b. Punta Gorda. South Carolina, hot-air dried, $4.50 per ton f. o. b. Fetteressa, S. C. Tennessee phosphate rock, 75% av., $3.50@$4 f. o. b. mines for export, guaranteed 78% bone phosphate of lime and 3@4% iron and alumina (ex-vessel New York, $9@$10), and $3@$3.50 for domestic brown, and $1.90@$2 f. o. b. for blue Hickman County rock. The difference in the price of this phosphate and Florida high grade is owing to the higher percentage of iron and alumina in the Tennessee rock. Concentrated phosphates, 13@15% av., P O_5 60@62½c. per unit at sellers' works. Acid phosphates, 60c. per unit at sellers' works in bulk.

Liverpool. Aug. 9.

(Special Report of Joseph P. Brunner & Co.)

The improvement recently noted in heavy chemicals still continues and in the case of caustic soda prices mark a further advance.

The following are particulars of the exports of alkali and bleaching powder for the month of July, taken from the Board of Trade returns just issued:

	Alkali. cwts.	Bleaching powder cwts.
Total exports to all quarters...	269,989	81,380
Exports to United States alone	30,628	51,583

As compared with July, 1898, the total exports show a falling off in the case of alkali of about 4.40% and about 10.80% as regards bleaching powder. Soda ash is in moderate supply and some makers are refusing orders for prompt delivery. Quotations vary according to market, and the maximum range of tierces may be called about as follows: Leblanc ash, 48%, £4 5s.@£4 10s. per ton; 58%, £4 10s.@£4 15s. per ton net cash. Ammonia ash, 48%, £4@£4 5s. per ton; 58%, £4 5s.@£4 10s. per ton net cash. Bags are 5s. per ton under price for tierces. Soda crystals are wanted, and £2 17s. 6d. per ton, less 5%, is generally quoted for barrels, or 7s. less if taken in bags.

Caustic soda is scarce and makers have advanced prices another 10s. per ton, the following now being spot quotations: 60%, £7; 70%, £8; 74%, £8 10s.; 76%, £8 15s. per ton, net cash.

Bleaching powder, although nominally quoted at £4 15s.@£5 per ton for hardwood, is stronger and difficult to buy for export at the lower figure.

Chlorate of potash is meeting with some inquiry, but without much actual business resulting. Quotations are about unchanged at 3½@3⅝d. per lb. for crystals and 3⅝@3¾d. per lb. for powdered, as to quantity.

Bicarb. soda is without special feature, and selling at varying prices according to destination, ranging from £5 5s.@£6 15s. per ton, less 2½%, for the finest quality in 1 cwt. kegs, with usual allowances for larger packages.

Sulphate of ammonia is only offered very sparingly and position is, if anything, rather firmer, at about £12 10s.@£12 12s. 6d. per ton, less 2½%, for good gray; 24@25% in double, bags, f. o. b. here.

Nitrate of soda is quiet at £7 15s.@£8 per ton, less 2½%, for double bags, f. o. b. here, as to quality and quantity.

Valparaiso, Chile. July 1.

(Special Report of Jackson Bros.)

Nitrate of Soda.—During the first days of the fortnight scarcely any transactions took place in this district, owing to the high prices asked by sellers, but notwithstanding this, on June 26th producers advanced still further their pretensions, asking 5s. for July-August and 5s. 1d. for September-December deliveries of 95%, steamer terms, some few sales taking place in prompt shipments, which have been for some time past scarce; but otherwise the limits asked are entirely impracticable as compared with

European quotations. We quote 95%, July-August, 4s. 11½d.; September-December, 5s. ½d., and 96%, 5s. 2d. sellers, ordinary conditions. The price of 4s. 11½d. with 27s. 6d. all round freight stands in 6s. 10½d. per cwt. net cost and freight, without purchasing commission. Sales reported during the fortnight aggregate 225,000 qtls., of which only 44,000 qtls. were refined nitrate of soda.

IRON MARKET REVIEW.

NEW YORK, Aug. 18, 1899.

Pig Iron Production and Furnaces in Blast.

Fuel used	Week ending Aug. 19, 1898. F'ces.	Tons.	Week ending Aug. 18, 1899. F'ces.	Tons.	From Jan., '98. Tons.	From Jan., '99. Tons.
An' racite	25	16,750	42	37,125	755,186	934,043
Coke.....	140	184,775	180	225,275	6,490,046	7,050,454
Charcoal.	22	6,625	22	6,275	190,779	172,298
Totals..	187	208,150	244	268,675	7,436,011	8,156,795

The iron market continues very strong, with an extraordinary business for midsummer. We can hardly note any general advance in prices, though there are cases of exceptional quotations made where requirements for material are pressing. The only specific advance recorded this week is an increase of 25c. a ton on Alabama Nos. 1 and 2 foundry and Nos. 1 and 2 soft iron, which has been made on new orders.

Steel billets continue in demand, and the prices charged for any deliveries short of next January depend very much on the necessities of the buyers. We have still the abnormal condition of billets commanding a higher price than rails. There are even some reports that a large purchase of billets has been made in Scotland by an American mill; but at current prices there this seems hardly possible. At any rate the report cannot be verified.

The transactions in steel rails in the East have been limited to small orders. From Chicago there are reports that two or three large contracts for 1900 delivery are under negotiation, but there is still some difference of opinion as to prices, which has delayed their closing. The rail mills are not pressing the matter, having work enough on hand to make them doubtful whether they can complete it all in the required time.

Structural material continues in demand, and some contracts which have been held back in hopes of lower quotations have come on the market, the parties controlling it having apparently made up their minds that it is no use to wait any longer. On the other hand, we hear constantly of building contracts postponed on account of high prices, but it is hard to tell in many cases whether the statements are genuine, or whether they are made only to impress sellers.

Export inquiries are still quite frequent. A considerable tonnage of pig iron is said to have been placed for foreign buyers, chiefly with Southern furnaces. The latest foreign orders for finished work include a number of bridges for Japan.

The great question in the trade is how far it is safe to go in placing contracts for 1900 delivery at present prices. Many mills have orders enough on their books to make them prefer to close now rather than run the risk of a short supply of raw material; but others are still in doubt. The majority, however, seem to hold to the belief that no serious reductions in prices are probable for a year to come. There is little question as to present demand, the uncertain factor being next year's presidential election and the issues upon which it will turn.

Birmingham, Ala. Aug. 14.

(From Our Special Correspondent.)

While the demand for pig iron was not so active during the past week as it has been in this district, there is no reason to say that a change has come over the conditions. The furnace companies have their hands full in handling the business they have on their books, and the prospects are so encouraging that when the demand slacks it comes more as a relief than anything else. There has been no change in the quotations, except a little stiffening. A furnace company official admitted that Nos. 1 and 2 foundry and the same grades of soft have been advanced recently and are now bringing $16@$16.50 for No. 1, and $15.50@$16 for No. 2. The shipments from this district continue large.

Mr. McQueen, secretary of the Sloss Iron and Steel Company, stated that though the inquiry and demand during the week just closed was not as brisk as it had been, still the market is in a satisfactory condition. He stated that he had sold iron recently at current prices, and even at an advance, for delivery as late as next June. There are a number of orders on hand, and it takes hard work to fill near-by demands. The Sloss Company has three furnaces in blast, and the amount of iron being shipped out is greater than that being manufactured. Every effort is being made to get the fourth furnace in blast, as the iron can be used very handily.

The Vanderbilt furnace, the property of the Tutweiler Coal and Iron Company, is now in blast, but its output has been sold some time ahead. The starting up of the Ensley steel plant in 50 or 60 days will mean another demand for pig iron. By that time all four of the furnaces at Ensley will be in full blast, but the amount to be needed by the steel plant will have to be taken from the present supply.

There is no fear of raw material or labor being scarce. The ore mines are pushing ahead and much ore is being mined. The limestone quarries are working well and there is plenty of labor around the district.

The rolling mills are unable to meet all demands made on them for their product. More men are being sent for to Ohio and Kentucky to work here, and it is proposed to work all departments on double time.

The blowing in of the big steel plant at Ensley is being looked forward to with considerable interest. Orders have been taken for the product of this plant with delivery guaranteed for November, though efforts will be made to get the plant in operation by October.

The steel wire and rod mill will be ready to go into blast just as soon as the steel plant starts. The steel plant is to furnish 300 tons of steel a day. The machinery for the steel wire and rod mill is being received right along, and is being placed in position rapidly.

Buffalo. Aug. 16.

(Special Report of Rogers, Brown & Co.)

A large volume of business has been booked during the past week for delivery during the first half of next year, all of it at full present prices. Not much is doing for early delivery, for the double reason that the large buyers have as a rule covered their wants for the balance of the year, and should there be a call for prompt shipment new business the orders could not be taken, furnaces tributary to this market being already sold as heavily as they can produce. Requests for shipment faster than the regular terms of an order are frequent, but out of necessity cannot be granted. The new Union Furnace of Buffalo, lighted this week, adds to the local output, but we are informed its product is already sold for the remainder of the year. It is not customary for furnaces to sell so far in the future as they are at present doing, but this action is being forced on them by their customers, who desire to be assured of obtaining their requirements when the time comes. We quote for cash f. o. b. cars Buffalo: No. 1 strong foundry coke iron, Lake Superior Ore, $21.50@$22.50; No. 2 strong foundry coke iron, Lake Superior ore, $20.50@$21.50; Ohio strong softener No. 1, $21.50@$22.50; Ohio strong softener No. 2, $21@$22; Jackson County silvery No. 1, $28; Southern soft No. 1, $21; Southern soft No. 2, $20; Lake Superior charcoal, $23; coke malleable, $21@$22.

Cleveland, O. August 15.

(From Our Special Correspondent.)

The iron ore market continues quiet. There are no real desires to make further sales except in small lots as might be wanted. Agents are giving the most of their thought and attention to getting down from the Upper Lake ores already sold. They wish to be sure that they will be in shape to deliver these ores before making any more sales. With all the efforts made in this direction there are even now moderate indications that in a few instances orders taken may not be completely filled. Not enough ores may be taken out of some mines to entirely fill all orders, and it remains to be seen whether all ores sold can be landed on the docks of Lake Erie ports. Rates for transportation of ores have advanced to 85c. per ton from Escanaba to $1.10 from Marquette and $1.15@$1.20 from Duluth.

The quotations are as follows: Specular and magnetic ores, Bessemer quality, $4@$4.25; specular and magnetic ores, non-Bessemer, $3.25@$3.75; red hematite ores, Bessemer quality, $3.75@$4.25; red hematite ores, non-Bessemer quality, $2.75@$3.25.

Pig Iron.—Great activity has appeared in the pig iron market during the past week. The demand has been good for all offerings of foundry and Bessemer irons, not only for delivery during the remaining months of this year, but well into next year. It is reported that sales have been made to be delivered as late as the middle of 1900. Bessemer iron was sold at $21 per ton, and other kinds at correspondingly advanced rates. There is a difference of opinion among manufacturers as to whether these high prices will continue. By some it is thought that all the furnaces, even those which have been idle for years, being put in operation, the market will soon be eased up and these unnatural prices reduced. Those who hold the latter opinion, of course, are not anxious to make large purchases at this time. The whole market has reached higher figures than were quoted a week ago. The following are the present quotations for iron f. o. b Cleveland: Lake Superior charcoal, $23; Bessemer, $21.50; No. 1 foundry, $21.50; No. 2, $21; No. 1 Ohio Scotch, $21; No. 2, $20.50; gray forge, $18.25.

Philadelphia. Aug. 17.

(From Our Special Correspondent.)

Pig Iron.—There is less to say this week than for months because of the exhaustion of stocks, the sold-up condition of most furnaces, including the incoming Southern furnaces, and the general unwillingness of makers to sell any more iron until later in the season. Prices are said to be stronger and higher than a week ago, but all that there is to this statement is that if there was any iron that could be delivered within 30 to 60 days there are buyers here in such need that they would pay more for it than has been asked. To-day's nominal quotations for No. 1 X foundry are $21@$22; No. 2 X, $20.50@$21; Gray forge, $18@$18.50. Basic and Bessemer cannot be bought.

Billets.—Under conflicting advices from mills the only quotations that can be given to-day are $37@$38.

Bars.—There are no new developments, but some trouble is expected early in September, when a vigorous effort will be made by car builders and other large consumers to place orders for winter and spring delivery. Refined iron is 2@2.10c.; common, 1.90c.; tested, 12@15c.; steel, 2.20@2.30c.

Skelp.—Skelp quotations under urgent inquiry from Western sources were marked up $2.00 per doz., and large orders were accepted.

Sheet.—The sheet mill people are preparing to increase output at some mills. The conditions are not changed as to demand or quotations and buyers have to submit to dictation.

Pipes and Tubes.—This department is very strong, but the week has passed without any new developments. It is understood there will be a heavy demand for tubes in September. The summer has been exceptionally active.

Merchant Steel.—Mill agents say their information leads them to believe there will be a pressure for merchant steel and merchant pipe which the mills will be unable to meet.

Plates.—Ship building requirements will again be presented in a few days to mill people. While there has been no marking up of prices, it is known that small buyers have offered more than market quotations for iron and steel plate to keep things going.

Structural Material.—The representatives of this branch say that so far August has been comparatively quiet, but that specifications are being completed for some of the largest pieces of engineering work recently undertaken. It was rumored a local concern had closed contracts for 2,000 tons shapes and plates, but confirmation is needed.

Steel Rails.—Rails are creeping upward and may be quoted at $31@$32.

Old Rails.—A fair quotation for old iron rails is $22.

Scrap.—There is but little good scrap to be found. Orders are out for much more than it will be possible to pick up.

Pittsburg. Aug. 16.

(From Our Special Correspondent.)

The Bessemer Furnace Association has withdrawn prices altogether and will hold a meeting on Saturday, probably in Cleveland, to decide what will be done in the way of selling iron for next year. Some sales have been made for the first half of the year, but all were at prices above $21. Some sales have been made during the week for the balance of this year at $21@$21.50. Several odd lots for quick delivery have brought higher prices. The majority of the steel mills have not been running full time for the past month owing to the inability to secure pig iron. There is no doubt but that some would pay at least $25 for iron. Foundry iron is very scarce and there is hardly any for this year, and what there is has been sold at fancy prices. No. 2 has sold for $20@$20.50 and up to $22. The prices of steel are very irregular. Mills are not selling for next year, and very little is being sold for this year. Billets are quoted this week at $36@$38 a ton, an advance of fully $2 a ton over last week's prices. The demand is greater than the supply, but there is very little selling in any line of steel. Mills are filling old orders, and are kept busy doing that. Open-hearth steel is quoted at from $42 to $45 a ton, but has sold higher for quick delivery. Sheets are stronger and prices have gone up. There is no change in prices for pipes and tubes, and muck bar is still quoted at $34 at the mills. The American Tin-Plate Company prices for 100-lb. coke plates at the mills remain at $4.37½ a box. Jobbers are getting $4.65 a box for prompt delivery. Ferro-manganese has gone up and is quoted this week at $100. The Carnegie Steel Company is the only producer in Western Pennsylvania and turns out large quantities at one of the Lucy furnaces.

The stove manufacturers of Pittsburg and vicinity have consolidated their interests and have formed the Pittsburg Stove and Range Company with a capital stock of $2,000,000. Eight of the nine concerns have entered the combination, Graff & Co. remaining on the outside. The formal details of the combination are to be completed on August 31. All the stock was subscribed for by the manufacturers themselves.

The Monongahela Company, recently char-

tered in this State, has been granted permission to change the name to the Monongahela Tube Company. Ten acres of ground has been bought at Wilson Station, near Pittsburg, and a plant is being erected for the manufacture of pipes and tubes. It will probably be completed and ready for operation by January 1st.

Pig Iron.—Bessemer iron is quoted at $21@$21.50 in the Valley and $21.75@$22.25 in Pittsburg. Sales at higher prices have been made. Foundry No. 2 has sold up to $22 and sales have been made for next year at $20@$20.50. There is no change in the price of mill iron.

Steel.—Prices are irregular and the demand continues to exceed the supply. Billets are quoted at $36@$38, an advance of fully $9 a ton compared with last week's quotations. Open-hearth steel is selling at $42@$45, but sales have been made at a higher figure.

Bars.—There is but little change in bars. Steel bars are a trifle higher than last week and are quoted at 2.15@2.25c., and iron bars at 2.05@2.15c.

Sheets.—Sheets are stronger again and No. 28 common is quoted at 3.15@3.25c. for delivery within a few months. Higher prices rule for prompt delivery. Galvanized is still quoted at 70, and 5% off.

Ferromanganese.—The price for domestic 80% has advanced from $85 to $100 and the demand is as heavy as last week.

New York. Aug. 18.

Domestic business shows no especial change. In the foreign trade we note inquiries for iron pipe and steel rails from Mexico and steady shipments of machine tools to Germany.

Pig Iron.—The market continues firm and more contracts running well into next year are heard of. We quote, for Northern brands, tidewater delivery: No. 1 X foundry, $21.25; No. 2, $20.25; No. 2 soft, $19.25; No. 2 plain, $19.50. Southern brands, New York delivery: No. 1 foundry, $21; No. 2 foundry, $20; No. 1 soft, $20; No. 2 soft, $19.25; No. 3, $18.50.

Warrant Irons are higher. Alabama No. 2, $15¼; No. 3, $13½; No. 4, $13; gray forge, $13.

Bar Iron.—The market continues firm and the demand good. We quote refined iron 2.15c. in large lots on dock, and common, 2c.

Plate.—There is plate enough being made to supply all needs. Scare articles that have appeared in the daily press about short supplies for shipyards, etc., have this basis—the mills are shipping in a hurry, and often fail to send the particular kind of plate wanted at the particular time. We quote large lots at tidewater: Tank, ¼-in. and heavier, 2.75@2.85c.; tank, 3/16-in., 2.85@2.95c.; shell, 2.85@2.95c.; flange, 2.95@3c.; marine, 3@3.10c.; firebox, 3.10@3.20c.; universals, 2.70c.

Steel Rails and Rail Fasteners.—There is no change in quotations, which remain $30@$32 for standard sections f. o. b. Eastern mills. The market is quiet. Smaller rails are nominally quoted: 12-lb., $36; 16-lb., $36; 20-lb., $35; 30-lb., $34; 40-lb. to standard, $32, with the usual advance for small orders. Angle bars are 1.85c.; spikes, 1.95c., and bolts, 2.25c.

Structural Material.—There is no change to note in prices, nor in the general condition of the market. We quote for large lots at tidewater: Beams, 15-in., 2.25c.; tees, 2.25@2.35c.; channels, 2.25c.; angles, 2.20@2.30c.

Wrought Iron Pipe.—Demand remains unusually good, with mills turning down orders. The local steam heating business is said to be moderate, but numerous small orders count up. Discounts from base prices are 50% and 10% for all sizes, putting prices on the small sizes on a par with those prevailing in Europe.

Nails.—Demand continues to hold up well. Wire nails are still quoted at $2.75@$2.80 for large lots on dock. Cut nails are $2.45@$2.50.

METAL MARKET.

NEW YORK, August 18, 1899.

Gold and Silver.

Prices of Foreign Coins.

	Bid.	Asked
Mexican dollars	$ .48	$ .49
Peruvian soles and Chilean pesos	42⅞	.46
Victoria sovereigns	4.85	4.89
Twenty francs	3.85	3.90
Twenty marks	4.74	4.80
Spanish 25 pesetas	4.78	4.84

Gold and Silver Exports and Imports

At all United States ports in June and year.

	July.		Year.	
	1898.	1899.	1898.	1899.
GOLD.				
Exports	$1,497,013	$2,587,457	$7,723,205	$30,140,781
Imports	2,641,668	2,895,469	95,238,664	26,283,116
Excess	I. $1,144,655	I. $308 012	I. $87,515,459	E. $3,857,665
SILVER.				
Exports	4 884 922	4,003,452	29,482,919	31,123,380
Imports	2,653,746	2,731,796	15,546,785	17,168 511
Excess	E. $2,231,176	E. $1,271,656	E. $13,936,134	E. $13,954,869

This statement includes the exports and imports at all United States ports, the figures being furnished by the Treasury Department.

Gold and Silver Exports and Imports, New York

For the week ending August 17th, 1899, and for years from January 1st, 1899, 1898, 1897, 1896.

Period	Gold. Exports.	Gold. Imports.	Silver. Exports.	Silver. Imports.	Total Excess, Exp. or Imp.
We'k	.....	$31,233	$454,261	$81,794	E. $341,234
1899..	11,550,543	8,079,784	17,222,556	2,219,056	E. 18,481,259
1898..	613,583	71,901,698	21,115,923	1,976,817	I. 52,149,012
1897..	28,056,476	3,209,340	25,088,974	1,333,133	E. 49,602 982
1896..	40,369,448	17,634,198	24,990,732	1,795,945	E. 45,930,037

There were no exports of gold during the week; imports were from the West Indies. Exports of silver were to London; imports from South America.

The United States Assay Office in New York reports the total receipts of silver at 129,000 oz. for the week.

Average Prices of Silver per oz. Troy.

Month.	1899. Lond'n Pence.	1899. N. Y. Cents.	1898. Lond'n Pence.	1898. N. Y. Cents.	1897. Lond'n Pence.	1897. N. Y. Cents.
January	27.42	59.36	26.29	56.71	29.74	64.79
February	27.44	59.42	25.89	56.07	29.68	64.67
March	27.48	59.64	25.47	54.90	28.96	63 06
April	27 65	60.10	25.95	56.02	28.36	61.85
May	28.15	61.23	26 31	56.98	27.86	60.42
June	27 77	60 43	27.09	58.61	27.58	60.10
July	27.71	60 26	27.32	59.06	27.36	59.61
August	.....	.....	27.48	59.54	24.93	54.19
September	.....	.....	28.05	60.68	25.66	55.74
October	.....	.....	27.90	60.42	26.77	57.57
November	.....	.....	27.93	60.60	26.87	57.93
December	.....	.....	27.45	59.42	26.83	58.01
Year	.....	.....	26.76	58 26	27.55	59.79

The New York prices are per fine ounce; the London quotation is per standard ounce, 925 fine.

Average Prices of Metals per lb., New York.

Month.	COPPER. 1899.	COPPER. 1898.	TIN. 1899.	TIN. 1898.	LEAD. 1899.	LEAD. 1898.	SPELTER. 1899.	SPELTER. 1898.
Jan	14.75	10.99	22.48	13.87	4.18	3.65	5.34	3.96
Feb	18 00	11.28	24 20	14 08	4.49	3.71	6.28	4.04
March	17.54	11.98	23.82	14 38	4.37	3.72	6.31	4.25
April	18.43	12.14	24.98	14.60	4.31	3.63	6.67	4.26
May	18.25	12 00	25.76	14.52	4.44	3.64	6.88	4.27
June	17 93	11 89	25 85	15 22	4.42½	3.82	5 98	4.77
July	18 33	11.63	29.63	15.60	4.52	3.95	5.82	4.66
August	.....	11 89	.....	16.23	.....	4.00	....	4.58
Sept	.....	12.31	.....	16.08	.....	3.99	.....	4.67
October	.....	12.41	.....	17.42	.....	3.78	.....	4.98
Nov	.....	12.86	.....	18.20	.....	3.70	.....	5.29
Dec	.....	12.93	.....	18.30	.....	3.76	.....	5.10
Year	.....	12.03	.....	15 70	.....	3.78	.....	4.57

The price given in the table is for Lake Copper. The average price of electrolytic copper in January was 14.26c.; in February it was 17.02c.; in March, 16.35c.; in April, 17.13c.; in May, 17.2 c.; in June, 16.89c.; in July, 17.099c.

Financial Notes of the Week.

No special change is to be reported in the condition of general business during the week. The shipment of currency from New York to the interior continues, and the prospects are for higher rates of interest for some weeks to come. Manufacturing activity continues unabated, and the accounts from the grain and cotton crops favorable.

The silver market has been remarkably steady. The variation in price for the past week has been only 1/16d. Continental and home orders have contributed to sustain the price when Indian buying flagged.

July exports from the United States are smaller than those of June, but are still large for this month, reaching a total of $94,908,518, or $22,383,469 more than in July, 1898. For the seven months ending July 31st the statement of the Bureau of Statistics is as follows:

	1898.	1899.
Exports	$694,066,646	$687,927 151
Imports	377,245 219	448,370,057
Excess, exports	$316,821,427	$239,557,094
Add excess of exports, silver		13,954,869
" " " gold		3,857,655
Total apparent balance		$257,369,618

The gold and silver movement in detail will be found in the usual place, at the head of this column.

The statement of the United States Treasury on Friday, August 18th, shows balances in excess of outstanding certificates as below, comparison being made with the statement for the corresponding date of last week:

	Aug. 11.	Aug. 18.	Changes.
Gold	$244,902,814	$246,086,687	I. $1,183,883
Silver	4,869,360	4,490,273	D. 379,087
Legal tenders	15,741,180	16,451,277	I. 710,097
Treas notes, etc	801,216	694,292	D. 106,824
Totals	$266 314,570	$267,722,639	I. $1,408,069

Treasury deposits with national banks amounted to $78,064,625, an increase of $319,383 during the week.

The statement of the New York banks—including the 66 banks represented in the Clearing

Imports and Exports of Metals.

Port.	Week, Aug. 16. Expts.	Week, Aug. 16. Impts.	Year, 1899. Expts.	Year, 1899. Impts.
***New York.**				
Aluminum ..... long tons	.....	.....	302	12
Antimony ore	.....	1183	.....	1,109
" regulus	.....	.....	.....	640
Brass	.....	.....	70	.....
Chrome ore	.....	.....	.....	1,988
Copper, fine	2,445	407	35,822	14,560
" matte	.....	.....	556	723
" ore	.....	1,000	.....	20,004
" ash	.....	.....	20	161
" sulphate	.....	.....	11,403	.....
" other	.....	.....	.....	30
Cop-nickel matte	.....	.....	.....	53
Ferro-mangan'se	.....	142	15	178
Iron ore	.....	1469	4,107	50
" pig, bar, rod	.....	.....	20,862	2,003
" pipe	138	.....	712	.....
" plates, sheets	.....	.....	1,115	15
" other	.....	.....	.....	.....
Lead	700	1,300	35,031	32,972
Manganese, ore	.....	1350	.....	3 671
Metals, old scrap	6	138	2,844	2,157
" Composition	250	.....	5,107	71
Nails	24	.....	13,076	.....
Nickel	20	.....	1,187	733
" Ore	.....	.....	.....	4,020
§Railr'd material	.....	159	6,706	2,652
Rails, old	.....	.....	15,417	.....
Spiegeleisen	.....	150	.....	362
Steel bars, plates	46	1401	32,352	10,444
" rails	325	.....	41,257	155
" hoops	.....	.....	503	.....
" wire	345	1106	23,426	803
" not speci'd.	.....	173	9,657	9,797
Tin	.....	570	.....	17,238
" dross or ashes	.....	.....	60	.....
" and black plates	.....	1211	.....	21,526
Zinc	.....	12	272	308
" dross	.....	.....	346	.....
" ashes, skim	29	16	1,637	101
" ore	.....	.....	4,264	.....
" oxide	88	.....	2,641	288
†Baltimore.				
Alumina ..... bags	.....	.....	.....	3,479
Antimony regulus...casks	.....	.....	.....	252
Chrome Ore.....long tons	.....	.....	11	.....
Copper, fine	1,511	.....	23,170	.....
" matte	.....	.....	.....	.....
" sulphate	40	.....	1,522	.....
" pipe	.....	.....	100	.....
Ferro-manganese	.....	.....	.....	.....
Ferro-silicon	.....	.....	184	1,737
Iron pig, bar, etc.	.....	515	928	5,433
" ore	.....	7,372	.....	160,121
" pyrites	.....	.....	.....	41,007
" pipe	.....	.....	2,881	.....
Manganese ore	.....	2,248	.....	32,076
Metals, scrap	48	.....	4,553	14
Nails	.....	.....	533	.....
Pipe, iron & steel	287	.....	4,075	.....
Spiegeleisen	.....	.....	.....	.....
Steel, bars, pl'es	346	.....	28,460	843
" wire	45	7	776	257
" rails	7,537	.....	41,212	.....
not specified	111	.....	2,230	10
Tin	.....	.....	563	.....
" dross	.....	.....	.....	.....
" and blackplates	.....	19	.....	1,752
Zinc	.....	.....	25	5
" dross	20	.....	212	.....
" skimmings	.....	.....	131	.....
***Philadelphia.**				
Antimony.....long tons	.....	.....	.....	10
Chrome ore	.....	.....	.....	1,770
Copper ore	.....	.....	.....	26,354
" old	.....	.....	.....	11
Ferro-manganese	.....	.....	.....	1,317
Ferro-silicon	.....	.....	.....	160
Iron, pig	.....	1250	.....	925
" ore	.....	110,465	.....	132,254
" pyrites	.....	13,100	.....	5,250
Manganese ore	.....	.....	.....	53,187
Steel sheets	.....	.....	.....	510
Spiegeleisen	.....	.....	.....	1,520
Tin	.....	65	.....	765
" and black plates	.....	1256	.....	1,936
Zinc dust	.....	.....	.....	.....
" ore	.....	.....	3,093	.....

Total United States.‡‡

Articles.	June. Expts.	June. Impts.	Jan.—June. Expts.	Jan.—June. Impts.
Antimony long tons	.....	88	.....	616
" ore	.....	118	.....	332
Copper fine	6,044	3,990	47 274	11,925
" su phate	1.367	.....	10,743	.....
Iron, pig & bar	16,725	4,045	149,263	19,716
" ore	2,228	43,762	3,709	212,902
" rails	17	1	17	50
Iron& steel plates	4,595	398	35,180	935
" wire	8,396	232	56,190	1,409
Steel, billets, rods, etc	1,736	1,178	53,532	12,109
Steel rails	19,506	379	113,069	523
Lead, pigs, bars & old	4	.....	154	139
Lead in ore	7,083	6,018	40,030	45,090
Nails, cut	661	.....	1,137	.....
" wire	3,743	.....	13,588	.....
Tin	105	1,423	216	17,107
" plates	4	4,602	170	25,702
Zinc	43	45	540	516
" ore	1,645	.....	10,275	.....

*New York Metal Exchange returns. †By our Special Correspondent. §Not specified. ‡Week ending Aug. 11th. ‡‡ Monthly returns of the Treasury Department.

The duties on metals under the present tariff law are as follows: Antimony, metal or regulus, ¾c. a lb. Lead, 1¼c. a lb. on lead in ores; 2½c per lb. on pigs, bars etc; 2½c. on sheet, pipe and manufactured forms. Nickel, 6c. per lb Quicksilver, 7c. per lb. Spelter or zinc, 1¼c. per lb. in pigs and bars; 2½c. on sheets, etc. Copper, tin and platinum are free of duty

House—for the week ending August 12th, gives the following totals, comparison being made with the corresponding weeks in 1898 and 1897:

	1897.	1898.	1899.
Loans and discounts	$555,170,800	$659,411,200	$746,685,300
Deposits	630,589,900	760,754,600	849,918,600
Circulation	13,185,500	14,231,100	13,902,700
Reserve:			
Specie	92,613,300	166,224,400	171,963,600
Legal tenders	103,917,900	57,076,100	54,911,400
Total reserve	$196,530,200	$223,300,500	$226,875,000
Legal requirements	157,647,750	190,188,650	212,479,625
Balance, surplus	$38,882,450	$33,111,850	$14,395,375

Changes for the week this year were increases of $15,300 in deposits, $146,900 in circulation and $6,284,775 in surplus reserve; decreases of $6,395,200 in loans, $6,388,300 in specie and $100,200 in legal tenders.

The following table shows the specie holdings of the leading banks of the world at the latest dates covered by their reports. The amounts are reduced to dollars, and comparison is made with the holdings at the corresponding dates last year:

	1898.		1899.	
Banks.	Gold.	Silver.	Gold.	Silver.
N.Y. Ass'd	$166,224,400	.....	$171,963,600	.....
England	172,565,465	.....	167,589,495	.....
France	376,042,305	$248,577,375	384,522,865	$240,318,785
Germany	141,375,000	72,830,000	137,080,000	70,620,000
Spain	51,790,000	26,510,000	64,800,000	67,845,000
Aus.-Hun	174,895,000	63,070,000	182,870,000	63,655,000
Neth'l'ds	21,420,000	34,395,000	13,715,000	30,260,000
Belgium	15,155,000	7,575,000	15,325,000	7,655,000
Italy	73,915,000	9,495,000	77,665,000	8,830,000
Russia	553,190,000	22,695,000	477,100,000	27,215,000

The returns of the Associated Banks of New York are of date of August 12th, and the others are of date August 11th, as reported by the "Commercial and Financial Chronicle" cable. The New York banks do not report silver separately, but the specie carried is chiefly gold coin. The Bank of England reports gold only.

Shipments of silver from London to the East for the year up to August 3d, 1899, are reported by Messrs. Pixley & Abell's circular as follows:

	1898.	1899.	Changes.
India	£3,110,190	£2,967,100	D. £143,090
China	371,334	829,453	I. 458,119
The Straits	161,987	92,146	D. 69,841
Totals	£3,643,511	£3,888,699	I. £245,188

Receipts for the week this year were £141,000 from New York, £25,000 from the West Indies and £13,000 from Australia; a total of £179,000, all bar silver. The shipments were £60,000 bar silver to India, £35,500 bars to China and £11,200 Mexican dollars to the Straits and China; a total of £107,700.

Indian exchange continues steady, with large demand for this period of the year. The applications for Council bills in London covered several times the amount offered. The bills were taken at an average of 15.94d. per rupee. Some silver is being shipped to India, but a moderate quantity only.

The Treasury Department's estimate of the money in the United States on August 1st is as follows:

	In Treasury.	In circulation.	Totals.
Gold Coin	$152,189,537	$700,256,384	$852,445,921
Silver Dollars	417,263,958	63,158,273	480,422,231
Subsid. Silver	5,381,817	70,527,873	75,909,690
Gold Certif.	1,657,730	32,593,789	34,251,519
Silver Certif.	3,939,109	403,088,395	407,027,504
Treas'y Notes, 1890	921,744	92,158,536	93,080,280
U. S. Notes	35,351,022	311,329,994	346,681,016
Cur'y Certif's	100,000	19,955,000	20,055,000
Nat. Bank Notes	3,575,093	238,048,960	241,624,053
Totals	$620,380,010	$1,931,117,204	$2,551,497,214

During July there was a net decrease of $1,367,035 in the circulation. As compared with August 1st, 1898, however, there was an increase of $121,918,860. The circulation per capita this year is $25.31, as estimated.

Shipments of specie by water from San Francisco in July included $563,700 gold and $770,975 silver. For the seven months ending July 31st the shipments were as follows:

	Gold.	Silver.	Totals.
Hong Kong	$28,657	$2,165,067	$2,193,724
Shanghai	.....	593,442	593,442
Japan	6,395	200	6,595
New Zealand	2,500	.....	2,500
South Sea Islands	3,937	1,000	4,937
Central America	4,636	5,964	10,600
Mexico	375	27,000	27,375
Total foreign	$46,500	$2,792,673	$2,839,173
Honolulu	1,501,370	102,500	1,603,870
New York	8,387,469	46,812	8,434,279
Totals	$9,935,339	$2,941,985	$12,877,322
Totals, 1898	$21,931,067	5,232 709	27,163,776

The decrease this year was largely in gold coin shipped to New York. The shipments of Mexican coin were light, including only $276,494 in Mexican dollars in July and $658,334 for the seven months, against $1,334,218 and $2,478,550, respectively, last year. Besides the shipments noted there was $1,000 in nickel (5c.) coins sent to Honolulu in July.

Other Metals.

Daily Prices of Metals in New York.

August.	Sterling Exchange.	Silver. Fine oz. Cts.	Silver. London, P'nce	Copper. Lake, cts. ℔ lb.	Copper. Electrolytic, ℔ lb.	Copper. Lond'n standard £ ℔ ton.	Tin, cts. ℔ lb.	Lead, cts. ℔ lb.	Spelter, cts. ℔ lb.
12	4.86	60½	27¾	18½	17.45	... ...	31⅝	4.57½	5.75
14	4.86	60¾	27¾	18½	17.45	76 5 0	31¼	4.57½	5.70
15	4.86	60¾	27¾	18½	17.45	75 17 6	31¼	4.57½	5.70
16	4.86¼	60¾	27¾	18½	17.45	75 12 6	31⅜	4.57½	5.65
17	4.86¼	60⅝	27⅛	18½	17.45	75 12 6	31	4.57½	5.65
18	4.86¼	60½	27⅛	18⅝	17.45	75 15 0	31⅛	4.57⅛	5⅝

The quotations given for electrolytic copper are for cakes, ingots and wirebars; the price of electrolytic cathodes is usually 0.25c. lower than these figures.

Copper.—The market remains firm and again a very large business has been doing, mostly for this and next month's delivery; but also for delivery up to the end of the year. Lake copper is still obtainable at 18½c., at which price consumers have no difficulty in filling all their wants, although some companies will not sell at that price and remain out of the market. In electrolytic copper a good business has been doing, but prices are unchanged, mostly on account of the Europeans not being willing to pay present prices, and their market is fully ½@⅝c. below what is obtainable here. We have to quote electrolytic copper in cakes, bars or ingots 17⅝@17.45c. and cathodes, 17⅛@17.20c.; while casting copper is nominal at about 17¼@⅝c.

The speculative market in London was more or less affected by the unfavorable political news received from both France and the Transvaal. On Monday standard copper opened at £76 5s., but declined on Wednesday and Thursday to £75 12s. 6d., and the closing quotations are cabled as £75 15s. for spot and £76 2s. 6d. for three months. Refined and manufactured sorts we quote: English tough, £79 10s.@£80; best selected, £80 10s.@£81; strong sheets, £87 10s.@£88; Indian sheets, £84 10s.@£85; yellow metal, 6⅞@7d.

Stocks for the first half of August show a decrease of 300 tons in the visible supplies.

Copper production, as reported by Mr. John Stanton, who acts as statistician for the producing companies, was as follows for July and the seven months ending July 31st, stated in long tons (2,240 lbs.) of fine copper:

	July. 1898.	July. 1899.	Seven Months. 1898.	Seven Months. 1899.
U. S., reporting mines	14,452	18.533	127,139	130,520
U. S., outside sources	1,600	2,800	9,400	15,300
Total United States	16,052	21,333	136.539	145.820
Foreign reporting mines	6,794	7,390	47,674	51,019
Totals	22,846	28,723	184,213	196,839
Exports, United States	15,354	7,160	83,638	63,722

The production in July, though over 1,000 tons less than in June, shows a large increase over July, 1898, chiefly because that was a light month. The United States production for the seven months exceeded that of the corresponding period in 1898 by 9,281 tons, or 6.8%; 3,381 tons of this gain coming from the reporting mines, and 5,900 tons—nearly two-thirds—from outside sources. The European production is better than it was early in the year, and shows an increase for the seven months of 3,345 tons, or 7%. Exports from the United States show a large decrease, amounting to 19,916 tons, or 23.8%, for the year.

Tin.—The market has experienced quite a setback during the week, for while on Tuesday and Wednesday the London price was still up to £142 5s., on Thursday the market declined to £139 10s., and the closing quotations are cabled as firmer at £140 for spot and £140 15s. for three months.

In our market the premium for spot tin has entirely disappeared, but inquiry on the part of consumers is very fair. We quote 31@31¼c.

Lead.—The strike in Colorado has been officially declared off, and more normal conditions are looked for in the near future. We have not heard of any large transactions, and prices are still unchanged at 4.55@4.60c. New York, for early delivery, and 4.50@4.55c. for futures.

The foreign market continues to advance, the quotations for Spanish lead being cabled as £14 17s. 6d.@£15, and English lead at £15@£15 2s. 6d.

St. Louis Lead Market.—The John Wahl Commission Company telegraphs us as follows: Lead is dull and a trifle lower. The latest sales are on a basis of 4.50@4.52½c. for common metal, and 4.55c. for chemical and corroding lead. The reported settlement of the Colorado strike has caused buyers to be very apathetic, and quite a number of them look for lower prices, expecting largely increased supplies.

Spelter.—Owing to the apathy displayed of late by consumers, who seem rather reluctant to lay in supplies for future use, the market has again declined, and we understand that sales have been made on the basis of 5.50c. St. Louis and 5.65c. New York. At the end of the week a little more interest was manifested on account of the lower prices established, but the metal is still freely offered at the quotations above named. It is quite evident that spelter will go up and down on its own merits, independent of the course of the ore market.

The foreign market is still on the decline; good ordinaries being quoted at £24, specials at £24 5s.

Antimony is quiet and steady at 10½@11c. for Cookson's; 9¾c. for Hallett's, U. S. Star and Hungarian.

Nickel continues on unchanged lines, and no alteration in prices can be reported. We quote for ton lots, 33@36c. per lb., and for smaller orders, 35½@38c. London prices are 14@16d. per lb., according to size of order.

Platinum.—Demand is active and prices continue high. For large lots $15.50 per ounce is now quoted in New York, for smaller orders, $16@$17. The London quotation is 62@64s. an ounce.

Quicksilver.—The New York price has advanced 50c., and is now $45.50 per flask. The London price remains £8 7s. 6d. per flask, with the same rate quoted from second hands.

The Minor Metals.—Quotations are given below for New York delivery:

	Per lb.		Per lb.
Aluminum.			
No. 1, 99% ingots	35@37c.	Bismuth	$1.45@$1.50
No. 2, 90% ingots	31@34c.	Magnesium	$2.75@$3
Rolled sheets	38c up	Phosphorus	40@50c.
Alum.-bronze	20@23c.	Tungsten	70c.
Nickel-alum	33@39c.	Ferro-tungsten, 60%	60c.

Variations in price depend chiefly on the size of the order.

LATE NEWS.

The activity of the iron trade and the pressing demand for material is shown by the fact that a late marine bulletin reports 37 steamers loading with ores, now on the way to Philadelphia, or recently arrived, with such cargoes. The list includes 12 vessels from Spanish ports with iron ores, and 5 with manganese ores; from Russia 1 vessel with manganese ore; British India, 2 vessels with 16,950 tons manganese ore; from Peru, 2 vessels with manganese ore; Brazil, 3 vessels with manganese ore; Newfoundland, 4 steamers with iron ore; Cuba, 8 ships with iron ore. The shipments from British India and Brazil show new sources of supply.

A despatch from Seattle, Wash, August 17th, says: "A decision of interest to mining men of the United States and foreign countries has been handed down by Judge Hanford of the Federal court, in the case of the Puget Sound Reduction Works on an appeal from a decision by the United States Board of Customs Appraisers in New York. Judge Hanford holds that under the United States laws the fire assay shall be used to determine the amount of dutiable lead in imported ores, and gives the smelter company judgment against the United States for the amount of excess duties paid on the ores shipped to it under ruling of the Washington officials that the wet method should be used in assaying such ores."

It is reported that the visit of M. de Sincay, of the Vieille Montagne Zinc Company, to this country had, as one of its objects, the negotiation of an agreement between the zinc smelters of this country and those of Europe to regulate production and prices of the metal. Such an agreement has existed from time to time among the European manufacturers, but it has not been permanent and the failure of the latest convention was chiefly due to imports into Europe from this country. It is now reported from the West that M. de Sincay has conferred on this subject with the principal Illinois smelters—Matthiessen & Hegeler and the Illinois Zinc Company—and that both have declined to enter into any agreement. M. de Sincay is now visiting the Joplin Region.

A despatch from Scranton, Pa., August 18th, says: "A bill of equity has been filed here by the New York, Ontario & Western Railroad Company against the Northwest Coal Company, which has a contract with the Ontario Company to furnish it for shipment 100,000 tons of coal per month. When the Temple Iron Company was formed last fall, the Northwest Colliery passed into its control, and the contract with the Ontario & Western was abrogated. The railroad company now sues to enforce the contract. The plaintiff company alleges that it was besought to enter a combination with the Lackawanna, Erie, Jersey Central, Reading and New York, Susquehanna & Western to secure control of the coal market and prevent the construction of the New York, Wyoming & Western Railroad, the independent operators' road. It refused to go into the deal, but the combination was effected without it, and its purposes were carried out through the Temple Iron Company. This latter company bought up the best of the independent collieries, and left the individual operators' road with such a scanty source of supply that the project has remained in abeyance.

MINING STOCKS.

Complete quotations will be found on pages 236, 237 and 238 of mining stocks listed and dealt in at:

Baltimore,	Philadelphia.	Mexico.
Boston.	Spokane.	Paris.
Colo. Springs.	Salt Lake.	Rossland.
Denver.	San Francisco.	Toronto.
New York.	London.	Valparaiso

New York. Aug. 18.

The market was a little better than last week, On the curb Amalgamated Copper was highest early in the week, in anticipation of a quarterly dividend, selling around $98, but soon fell when it was learned that such dividends were problematical. On Wednesday a few hundred shares changed hands at $95⅜@$96½. Anaconda Copper also lost, being bid down to $55½ on Wednesday. British Columbia Copper was higher, touching $13, with sales reported around $12.50. Tennessee Copper sold at an advance over last week's prices.

American Smelting and Refining common, in consequence of the settlement of the Colorado Smelters' strike and the resumption of work at the Denver and Pueblo plants, rose from $41 to $45¾, and the preferred from $89⅛ to $92¾—the highest prices since April last.

Homestake of South Dakota was bid for at $65, without sellers. The regular and extra monthly dividend of 25c. per share has been declared and will be paid on the new stock, August 25th, making the distribution $105,000 instead of $62,500, as heretofore. The dividends paid this year therefore amounted to $542,500, making the total distributed to date $7,723,750.

In the Comstock group buying is small, and prices weak. In the Colorado stocks Breece was steady at $1.75, and will pay a 5c. dividend September 1st. We are advised that the recent efforts to change this company's capitalization from $5,000,000 to $3,500,000 have been unsuccessful owing to certain legal complications which prevent reorganization of the company. The company's capital will remain $5,000,000, divided into 200,000 shares of $25. Portland of Cripple Creek sold at $2; Adams Consolidated at 10@15c., but mostly at 12c.

Standard Consolidated of California brought $2.75, closing at $2.65.

The Parks Steel Company of Pittsburg has declared a quarterly dividend of 1¾% on the preferred stock, payable September 1st.

Boston. Aug. 17.

(From Our Special Correspondent.)

The market has been rather irregular, though prices have not been weak. There is but little outside speculation, and the brokers had the market pretty much to themselves. They made the most of it and shifted quotations up and down, with less regard to facts than fancy.

The features of the week were Amalgamated Copper, which was put up on persistent rumors of a dividend to come in a few days; and United States Mining, which was boomed on the purchase of Centennial-Eureka stock.

Some prices for gold and copper stocks were: United States Mining, $33¼; Utah, $45, up $½; Centennial, $35; Quincy, $178; Tamarack, $225; Copper Range, $43; Parrott, $52¾; Merced, $12; Atlantic, $28; Baltic, $26; Wolverine, $47½; Allouez, $7@$8; Rhode Island, $7@$8; Arnold, $19, up $⅝; American Zinc, $49½@$50¼; Bonanza, $17⅛; Bingham, $16, up $½; British Columbia, $12⅜; Cochiti, $12½; Santa Fe, $14; White Knob, $9 asked; Santa Ysabel, $13¼@$14; Wyandot, $5½@$6½; Winona, $11½@$13; Victoria, $4½ bid; Pioneer, $2⅛@$2¼; Adventure, $9; Michigan, $13; Mass., $12¾; Gold Dredging, $34 bid; Old Colony Mining, $9 bid; Tecumseh, $5¾; Calumet, $820@$840; Osceola, $90½; Franklin, $20¾@$21; Butte, $78.

Outside of the gold and copper shares there was much dealing in Dominion Coal, which brought $54½@$55 for the common stock. New England Gas and Coke brought $30½ for the stock, the bonds selling $84@$85.

The Wolverine Mining Company has declared a dividend of $2 a share. This did not bring any buying, or cause much movement in the stock.

The Baltic Company has called in an additional $3 on each share of the stock. This will give the company $300,000 to continue the work at the mine, which has now been well started.

It is understood that the New England Gas and Coke Company has under consideration the building of 400 additional ovens at its Everett works, making 800 ovens in all. This addition can, it is claimed, be made in a comparatively short time and at one-fifth the cost of the present plant. The company will not be obliged to call upon stockholders for additional money to increase its capacity. The plant was originally built with the idea of increasing its capacity to 1,200 ovens. The company is now turning out 400 tons of coke per day from 100 ovens.

Salt Lake City. Aug. 12.

(From Our Special Correspondent.)

Several notable ore uncoverings, a lower thermometer and the return of leading operators from their summer outing have had a buoyant effect. The tone of the market is firmer.

Ajax shares have about fully recovered their lost ground. Alice is strengthening and Anchor holds the recent advance. The few Centennial-Eureka share owners not in the pool are desirous of knowing how they will fare when the deal is consummated. From the notification sent out from the company's office it would seem that all will be allowed to transfer their holdings at $70, less $1.25 per share commission, if they so elect. The treasury surplus on hand Aug. 1 will be distributed among the old holders. Dexter participates in the revival, closing $2.39 bid, $2.40 asked.

Daisy did a brisk business; though the shares present a good front the desire for profit-taking softened prices. Four Aces is soon to supply a fresh surprise, if rumors can be credited. All sorts of stories are afloat relative to Geyser-Marion. Grand Central paid its dividend Aug. 10th. Homestake moves up. Joe Bowers is in favor with strong demand at 21. The annual meeting occurs on the 15th and is looked forward to with interest. It is intimated that Mr. John Dern will be the new president. Lower Mammoth is 8 points higher than on last Saturday. Mammoth furnished a big share of the week's trading at advancing figures. Conflicting reports are afloat; one that the present large production will be maintained, another that the new regime is crowding the output from old reserves without opening new ore bodies.

Mercur sagged just under $7. Northern Light closes 5 points lower than on last Saturday. Omaha puts on more strength. Ontario is fully $1 better than a week ago, with improved demand. Swansea has taken another spurt. Sunbeam fluctuates and on each advance is freely offered. Sunshine is in better form, though nothing is to be learned of the mine or status of the pending transfer. Tetro was a lively trader, the shares doubling and trebling, selling to 20, as particulars were learned of an ore uncovering.

San Francisco. Aug. 12.

(From Our Special Correspondent.)

The market this week has been very dull, but with too little movement in it to be called weak. The trading was small and was entirely given over to the shippers.

The news from the Comstock pumps and mines was quite uneventful, and there was nothing to stir up even a moderate interest.

Some quotations noted are: Consolidated California & Virginia, $2.20@$2.25; Ophir, $1.20@$1.25; Best & Belcher, 70c.; Mexican, 57c.; Potosi, 44c.; Yellow Jacket, 38c.; Hale & Norcross, 35c.; Crown Point, 28c.

There are no new developments as to the electric power scheme for the Comstock mines.

London, Aug. 2.

(From Our Special Correspondent.)

This week we have seen quite an unexpected blossoming forth of several new mining companies, so that though speculation generally on the Stock Exchange has been very dull, except in West Australians, there has been plenty to interest the speculator in mines. The first of the new companies to make its appearance is the Associated Consols, Limited. This company is practically a re-hash of several of the unsuccessful Bottomley companies operating in the Kalgurlie District, being a consolidation of the Associated Southern Gold Mines, Limited, the Northwestern Associated Gold Mines and the Auxiliary Associated Gold Mines. These three companies were floated by the Bottomley promoting group in 1896 and 1897, and though plenty of work was done on them of one kind or another, the properties do not appear to have been very successful. The promoters of the present consolidation hope by means of the new capital now being subscribed to open up the properties on a paying basis, but I am afraid that their chances of success are somewhat remote. It may be mentioned here that the three companies above named were originally promoted on the strength of the success of the Associated Gold Mines of West Australia, Limited, a company from the same "shop," which was fortunate in having acquired the Australia properties. The three companies own quite a number of claims adjoining the Australia, but their mineral matter is far and away inferior. It may also be mentioned that though the Associated Gold Mines was floated by Mr. Bottomley, the control was never in his hands and his interest in it was not held for long, so that it soon ceased to be a Bottomley company. I am inclined to class this consolidation in the same category as Whitaker Wright's recent Standard Exploration Company, which was formed to take over his unsuccessful West Australia promotions.

Two new Mount Lyell companies have made their appearance this week. One is the Mount Lyell Blocks Copper Corporation, Limited, which has been formed to take over the property of a company of similar name registered locally as Tasmania. The properties of this company adjoin those of the North Mount Lyell Company, and the existence of the same lode in them has been proved. The company comes out under the auspices of the Mount Lyell and Broken Hill people, and it has a good local board of management. Though the prospectus is publicly advertised, no shares are offered for subscription, as they have all been allotted to insiders. The object of the advertisement is simply to create a market, and we shall shortly find favored insiders offering their £1 shares at £3 apiece. In the palmy days of the mining boom, the eminent promoters, such as the Exploration Company and Barney Barnato, never took the trouble to issue a prospectus of any sort, but took all the shares themselves and peddled them out to the public at greatly inflated prices. Nowadays, when there is a good thing to be launched, prospectuses are issued giving details of the company and property, but tantalizing the public by telling them that their subscriptions are not wanted. Such prospectuses are headed "For public information only;" just as if a company is going to spend hundreds of pounds for such an object as that! It is done to help the promoters and insiders to peddle off their shares at an advanced price.

The other Mount Lyell company out this week is not of any great importance, for its reason for existence is obviously the contingency of its property to the already established mines. It is called the Mount Lyell Copper Estates, Limited, and it is promoted by Messrs. W. P. Henderson, John Kennedy, Mylius Cohen and John Gillespie, none of whom are noted as being successful promoters; in fact they might, without injustice, be called just the reverse. In the prospectus a vast amount of information is given about the great Mount Lyell, but very little about the properties in hand, which appear to be merely prospects of doubtful value.

Paris. Aug. 6.

(From Our Special Correspondent.)

The stock market is agitated and there have been numerous fluctuations, though the amount of business has been only moderate.

The only section which is stronger is the African gold stocks. Though there are still rumors of war, the general belief is that an amicable settlement of the Transvaal troubles will be secured in the end, though it may take some time.

Some dealing in the West Australian stocks is mentioned. Its actual amount it is hard to ascertain, since it is chiefly transacted through London, and none of these stocks are on the official lists in Paris.

The metallurgical stocks are not so strong and some hesitation is apparent. The copper stocks also are uncertain, and, in fact, there have been few transactions in them. The zinc and lead shares, though firm are in little demand.

For the half-year ending June 30th the production of coal in the Nord and the Pas-de-Calais—the chief coal producing districts of France—was, in metric tons:

	1898.	1899	Increase.
Nord	2,952 161	2,986,500	34,339
Pas-de-Calais	6,707,526	7,069,534	362,008
Totals	9,659,687	10,056,034	396,347

There were 47 producing collieries in the Nord, and 76 in the Pas-de-Calais.

French imports of coal during the first half of the present year amounted to 5,372,580 tons, against 4,275,990 tons during the first half of last year; an increase of 1,096,590 tons, or 25.6%. The following are the quantities for the two periods contributed by the three chief exporting countries: Great Britain, 2,931,350 tons and 2,163,160 tons; Belgium, 1,713,300 tons and 1,424,950 tons; Germany, 727,900 tons and 687,880 tons. On the other hand, French exports to Belgium during the same period were only 301,000 tons (against 294,350 tons during the first six months of 1898) notwithstanding the Belgian miners' strike. French coal exports to Switzerland and Italy fell off, having been 102,510 tons against 108,280 tons, and 12,710 tons against 24,330 tons, for the two periods respectively. It is evident that the coal consumption by France has increased, while the production has remained almost stationary.

At the last meeting of the Statistical Society of Paris there was a discussion as to the relative proportion of foreign securities held in France to the French securities owned. M. Alfred Neymark, in his writings, had estimated it at 25%. M. Edmund Théry believed that the real proportion was considerably greater. M. Neymark replied that his estimate was confirmed by the return of the duties paid on donations and successions in 1898. The total capital charged with duty was 1,716,000,000 fr. of French public securities, and 452,000,000 fr. of foreign, or 26.43% of the latter.

All eyes are turned towards Rennes, and the markets will not be easy until the crisis there is past. Azote.

Toronto, Ont. Aug. 15.

(From Our Special Correspondent.)

The market during the past week has been fairly active. Golden Star declined after the annual meeting, but advanced again 4 points. Van Anda is in fairly good demand; also Rathmullen, the latter showing a slight increase in price. The Camp McKinney stocks are firm. Cariboo advanced from 123 to 129. Silver Bell Consolidated has taken a spurt and is now selling at 5½; the reorganization of this company and the acquiring of new properties are responsible for the advance. Superior is firm around 25½.

STOCK QUOTATIONS.

NEW YORK.

Name of Company.	Location.	Par val.	Aug. 11. H.	Aug. 11. L.	Aug 12. H.	Aug 12. L.	Aug. 14. H.	Aug. 14. L.	Aug. 15. H.	Aug. 15. L.	Aug. 16. H.	Aug. 16. L.	Aug. 17. H.	Aug. 17. L.	Sales.
Adams Con	Colo.	$10	..	..	.12	....	.15	..	.12	....	.10	....	....	....	500
Alamo	"	1	.11	....	.09	....	.10	....	....	....	....	....	....	....	2,500
Alice	Mont.	5	....	....	1 05	....	.80	....	.55	....	.80	....	....	....	200
Ama'gamated C	Mont.	100	98.25	98.00	98.25	98.00	97.25	96.75	97 00	96 50	92.00	96 50	97.25	96.75	....
Anaconda, c	Mont.	25	58.75	57.63	58.00	57.75	58.25	57.00	57.13	56.50	56.75	55.50	57.00	56.63	9,820
Anaconda Gold	Colo.	5	....	....	.52	....	.50	....	.55	.53	.56	....	....	....	500
AnchorialLel	"	1	.72	....	.72	....	....	....	.78	....	....	....	....	....	....
Argentum-Jun	"	2	.24	....	.24	....	.23	....	.25	....	.24	....	....	....	....
Belcher	Nev.	3	....	....	....	....	....	....	.24	....	.35	....	....	....	....
Best & Belcher	"	3	.68	....	....	....	.65	....	.66	....	.80	....	....	....	....
Breece	Colo.	5	1.75	....	1.75	....	1.70	....	1.75	....	1.75	....	....	....	....
Brit.Col.Copper	B. C.	10	11.75	11 25	12.00	11.88	12 75	12 38	13 00	12.50	13.00	12.50	12.75	12.25	....
Brunswick	Cal.	1	.16	....	.5	....	.16	....	.16	....	.16	....	....	....	....
Caledonia	S.Dak	1	.50	....	.50	....	.50	....	.50	....	.50	....	....	....	....
Catalpa	Colo.	10	.20	....	.20	....	.20	....	.20	....	.20	....	....	....	....
Challenge Con	Nev.	3	....	....	....	....	....	....	....	....	....	....	....	....	....
Chollar	"	3	.22	....	....	....	.20	....	.23	....	.20	....	....	....	....
Comst'k T, st'e	"	100	.05	....	.04	....	.04	....	.04	....	.04	....	....	....	1,000
do. bonds	"	100	.04	....	.04	....	.04	....	.04	....	....	....	....	....	....
Con. Cal. & Va	"	2½	....	....	2.25	....	2.17	2.00	2.05	....	2.15	....	....	....	465
Con. Imp.	"	1	.03	....	....	....	....	....	....	....	....	....	....	....	300
Croesus	Colo.	1	.01	....	....	....	.01	....	.01	....	.01	....	....	....	17,200
Cr & Cr. Creek	"	1	....	....	.10	....	.05	....	.05	....	.10	....	....	....	500
Crescent	"	10	.16	....	.15	....	.15	....	.15	....	.15	....	....	....	....
Cripple Cr. Con.	"	1	.09	....	.14	.13	.14	.13	.14	....	.12	....	....	....	3,500
Crown Point	Nev.	3	.24	....	.24	....	.23	....	.24	....	.22	....	....	....	....
Deadw'd Terra	S.Dak	25	.60	....	.60	....	.60	....	.60	....	.60	....	....	....	....
Elkton	Colo.	1	.92½	....	.9 ½	....	....	....	.91	....	.98	....	....	....	....
Eureka	Nev.	20	.45	....	.4	....	.40	....	.45	....	.40	....	....	....	....
Father de Smet	Dak.	100	....	....	.15	....	.10	....	.10	....	.10	....	....	....	100
Garf. Con	Colo.	1	.16	....	.16	....	....	....	.15	....	.15	....	....	....	....
Gilpin & Linc'n	"	1	....	....	.4½	....	....	....	....	....	.44½	....	....	....	....
Gold Coin C.Ck	"	1	2.05	....	2.05	....	....	....	2.05	....	2.05	....	....	....	....
Gold Coin Gilp.	"	5	....	....	....	....	....	....	....	....	....	....	....	....	....
Golden Fleece	"	1	.23	....	.25	....	.24	....	.24	....	.24	....	....	....	....
Gould & Curry	Nev.	3	....	....	....	....	.40	....	.45	....	.40	....	....	....	....
Hale&Norcross	Nev	3	.30	....	.30	....	.32	....	.3	....	.30	....	....	....	....
Homestake	S.Dak	100	65.00	....	65.00	....	65 00	....	65.00	....	65.00	....	....	....	....
Horn Silver	Utah.	25	1.35	....	1.35	....	1.30	....	1.35	....	1.35	....	....	....	....
Iron Silver	Colo.	20	.50	....	.48	....	.50	....	.50	....	.50	....	....	....	....
Isabella	"	1	.87	....	.85	....	.88	....	.90	....	.90	....	....	....	....
Jefferson	"	1	.07	....	.07	....	....	....	.0	....	.10	....	....	....	....
Justine	"	1	01¾	....	.01	....	....	....	.01	....	.01	....	....	....	....
King & Pemb	Ont.	10	.20	....	.20	....	2	....	.20	....	.15	....	....	....	....
Lacrosse	Colo.	1	.16	....	.16	....	.16	....	.6	....	.16	....	....	....	....
Leadville Con	"	10	.10	....	.10	....	.10	....	.09	....	.09	....	....	....	1,400
Little Chief	"	5(	.18	....	.19	....	.19	....	.21	....	.19	....	....	....	100
Mexican	Nev.	9	.63	....	.65	....	.58	....	.55	....	.50	....	....	....	300
Mollie Gibson	Colo	1	....	....	.15	....	.23	....	.28	....	.24	....	....	....	200
Morenci Copper	Ariz.	1	....	....	....	....	....	....	2.45	....	2.00	....	....	....	....
Morenci Cop.pf	"	1	1 63	....	1.63	....	....	....	1.65	....	1.67	....	....	....	....
Mouiton	Mont.	25	.2	....	.25	....	.30	....	.30	....	.30	....	....	....	....
Mt. Rosa	Colo.	1	.23	....	.24	....	.24	....	.25½	....	.25	....	....	....	....
Occidental	Nev.	3	.18	....	....	....	18	....	.18	....	.15	....	....	....	....
Ontario	Utah.	10	7.50	....	8.00	....	9.00	....	....	....	7.25	....	....	....	165
Ophir	Nev.	3	1 10	....	....	....	1 10	....	1.10	....	1.05	....	....	....	....
Pharmacist	Colo	1	....	....	.9	....	.05	....	.04	....	....	....	....	....	1,000
Phoenix	Ariz.	1	.11	....	.08	....	.11	....	.12	.10	.08	....	....	....	700
Plymouth Con	Cal.	10	.10	....	.10	....	.10	....	.18	....	.08	....	....	....	....
Portland	Colo.	1	2.00	1.85	1.80	....	1.85	....	1.90	....	1.85	....	....	....	100
Potosi	Nev.	3	.40	....	....	....	.40	....	.50	....	.47	.4	....	....	100
Quicksilver	Cal.	100	2 35	2 00	1.9	....	1 90	....	....	....	2 00	....	....	....	200
do. pref	"	100	7 80	....	8.00	....	8 00	....	7.5	....	8 00	....	....	....	....
Savage	Nev.	2½	.24	....	....	....	.2	....	.28	....	.20	....	....	....	5.0
Sierra Nevada	"	3	.65	....	.68	....	.64	....	.60	....	.70	....	....	....	650
Small Hopes	Colo.	20	1 24	....	....	....	1 20	....	1.13	....	1.20	....	....	....	....
Specimen	"	1	.06	....	.09	....	.16	....	.10	....	.11	....	....	....	....
Standard Con	Cal	10	....	....	2.63	....	2.75	....	2.5	....	2.65	....	....	....	3.0
Tenn Copper	Tenn	25	20.25	20.00	20.25	20.00	21.00	20.13	20 50	20 13	20.50	20.00	20.50	20.0	....
Union	Colo.	1	.32	....	.30	....	.33	....	.30	....	.32	....	....	....	500
Union Con	Nev.	2½	.30	....	....	....	....	....	.34	....	.30	....	....	....	500
Utah Con	"	3	.14	....	....	....	.11	....	.11	....	.10	....	....	....	200
Work	Colo.	1	.27	....	.26	....	.25	....	.25	....	.26	....	....	....	500
Yellow Jacket	Nev.	3	.30	....	....	....	.33	....	.40	....	.34	....	....	....	200

COAL AND INDUSTRIAL STOCKS.

Am. Sm. & Ref.	.....	$100	42	41¾	41¾	41	43¾	42	43¾	44	43	44	45¾	45	43,675
" " " pf	.....	100	88½	88½	89½	89	92	89½	92¾	91	91¾	....	92	91	18,465
Am.S &W Co n	.....	100	61¾	6 ¾	62	60¼	62¾	61¼	6 ¾	58¾	59	58¾	59¾	58¾	141,24
" " pfr n	.....	100	1	99¾	10 ¾	100	101	99¾	98¾	....	99¾	98¾	....	....	12,260
Central of N. J.	N. J	100	118¼	1.8	118¾	117¾	118	117¾	118¾	117¾	....	....	117¾	....	2,899
Col. C. & I. Dev	Colo.	100	2¾	....	3	....	.19	2¾	....	....	....	....	....	....	800
Col. Fuel & Ly	Colo.	100	52¾	51¾	5 ¾	51¼	54¾	52¼	53¾	53¾	53¾	52¾	52¾	51¾	30,335
Col. & H.C.&I.	Ohio.	100	18	16¾	17¾	16¾	17¾	17¾	17	....	....	....	17¾	....	8,020
Del. & Hud.	N. Y.	100	124¼	123¾	123¼	....	124	124¼	123	....	123¾	123¼	....	....	1,728
Federal Steel	.....	100	6 ¾	59¾	60¼	60¼	61¾	6 ¾	61¾	59¾	60¾	59¾	59¾	59¾	84,200
" " pf	.....	100	82¾	82¼	82¾	82¾	83	82¾	82¾	82	82¾	82	....	....	6,577
National Lead	N. Y.	100	32¾	32¼	31	32¾	33¼	33	33¾	33	32¾	32¼	....	....	6,084
" " pf	Md.	100	113	112	113	112	113¾	....	....	....	113	1 2¾	....	....	853
National Salt	.....	100	45	44	45	44	46½	45	47	45¼	47	45	47	45	....
" pf	.....	100	76	73	76	73	76	71	75	73	75	73¼	75	73	....
N. Y., Ont. & W.	N. Y.	100	26¾	26¼	26¼	26¼	26¾	26¾	26¾	26¼	26	26¼	26	26¼	9,012
Reading, 1st pf.	Pa.	100	61¾	60¾	61½	6 ¾	61¾	60¾	61	60¼	60¾	60	60¾	60¾	23,180
" 2d pf.	"	50	34	33¾	....	....	33¾	33	33¼	32¾	32¾	....	....	....	3,600
Republic I. & S.	.....	100	23¾	23¼	23¾	23¼	23¾	23¼	23	....	23	22	....	....	....
" " pf	.....	100	74½	74	74¾	74	74	....	74	73	74	73¾	74	73	....
Standard Oil Tr	.....	100	475	471	474	472	472	470	473	472	474	471	473	471	....
Tenn.C.,I.&R.R.	Ala.	100	83¼	82¼	86	....	92¾	92¾	87½	92¾	88¼	90¼	88¼	91¼	89¾	88,215

PHILADELPHIA PA.

Name of Company.	L'cation.	Par Val.	Aug. 10. H.	Aug. 10. L.	Aug. 11. H.	Aug. 11. L.	Aug. 12. H.	Aug. 12. L.	Aug. 14. H.	Aug. 14. L.	Aug. 15. H.	Aug. 15. L.	Aug. 16. H.	Aug. 16. L.	Sales
Am. Alkali	.....	....	3¾	....	3¾	....	4	....	4	....	4	3¾	4	3¾	6,175
" pf.	.....	....	....	....	2¾	....	2¾	....	2¾	....	2¾	....	....	....	310
Bethlehem Irn	Pa.	....	62¼	....	62¼	62	62¾	....	61¾	....	....	....	61¾	....	580
Bethlehem St'l	"	$50	....	....	22¾	....	22¾	....	22¾	....	22¾	....	22¾	22¾	560
Cambria Iron	"	50	45¼	....	45¼	....	....	....	45¾	45	45	....	45	....	566
Cambria Steel	I.T.	50	2 ¾	22¾	22¾	22¾	22¾	....	23	22¾	22¾	....	22¾	22¼	9,985
Choctaw, pref.	Pa.	50	48¾	48¼	48½	....	....	....	48¾	....	....	....	48	....	1,528
Lehigh Val	"	50	27¼	27¼	27¼	27¼	....	....	27	....	26¾	....	26¾	....	1,579
Penna. R. R.	"	50	68¼	....	68¾	68	68¾	68	68¾	68¾	....	....	....	....	958
Susq I. & S.	"	....	7¾	7¾	7¾	....	....	....	7¾	7¾	7¾	7¾	7¾	....	7,538
United Gas I.	"	....	....	....	....	....	....	....	169¾	....	169¾	169¼	169	....	1,045
Welsh. of Can	Can.	100	3¼	....	2¼	....	2¼	....	....	....	....	....	....	....	100
Welsh. Comi.	"	100	....	....	....	....	....	....	....	....	....	....	....	....	....
Welsh Light	"	100	53¼	....	53	....	53	52¾	53	....	52	....	53	51¾	1,586

Total shares sold, 32,510.

VALPARAISO, CHILE.* July 1.

Name of Company.	Location.	Capital paid.	Sh. Val. paid up.	Last Div'nd. Amt.	Last Div'nd. Date.	Prices. Bid.	Prices. Asked.	Prices. Last sale
Arturo Prat, silver	Chile.	$3,300,000	$100	4 p. c.	1897	21	22	21
Caracoles, silver	"	315,000	100	10 "	1894	....	....	....
Huantajaya (mine) silver	"	1,000,000	100	13 "	1894	....	....	....
Huanchaca, silver	Bolivia.	8,000,000	25	4 "	1895	37	38	38¼
Oruro, silver	Chile.	800,000	200	....	....	250	280	280
Todos Santos, silver	"	2,000,000	100	1 "	1895	4	5	6
Agua Santa nitrate	"	3,000,000	50	5 "	1898	145	146	146
Antofagasta, nitrate	"	2,000,000	200	3 "	1898	125	125	125
Soc. Internacional, nitrate	"	1,600,000	60	....	....	....	5	....
Union, nitrate	"	8,000,000	200	....	....	40	45	42

* Special report of Jackson Bros. Values are in Chilean pesos or dollars.

BOSTON MASS.†

Name of Company.	Par val.	No. of shares.	Aug. 10. H.	Aug. 10. L.	Aug. 11. H.	Aug. 11. L.	Aug. 12. H.	Aug. 12. L.	Aug. 14. H.	Aug. 14. L.	Aug. 15. H.	Aug. 15. L.	Aug. 16. H.	Aug. 16. L.	Sales.
Aetna, cons. g.	$5	100,000	....	....	....	....	....	....	....	....	4.00	....	....	....	100
Adven'u'e,Cons	25	100,000	9.50	....	10.00	9.00	....	....	....	....	9 50	9.00	9.25	9.00	335
Allouez, c	25	80,000	....	....	....	....	....	....	....	....	7.75	....	7.25	....	35
Am. Z., L. & S.	25	50,000	50 00	....	50.00	49 75	50.00	49.75	....	....	50 00	....	....	....	749
Anaconda	25	1,200,000	58 50	58.25	....	....	....	....	....	....	58 00	....	....	....	125
Arcadian, c	25	150,000	78.75	76 00	76.50	75.00	76.00	74 75	76.00	74.63	75 88	74 75	75 50	74 25	4,198
Arnold, c	25	60,000	15 00	....	....	....	15.0	14.75	14.75	....	14.50	....	15 63	14. 8	3,396
Ashbed, c	25	40,000	2.00	....	2.00	....	....	....	....	....	....	....	1 75	....	105
Atlantic, c	25	40,000	29.50	....	29 00	28.13	....	....	....	....	29.00	....	28 0	....	580
Baltic, c	25	100,000	29.25	28.50	29 0	27.75	27.75	27 25	27.38	26.75	26 .75	25 25	26.00	....	6,800
Bingham, c.&g.	10	190,000	14 89	14.25	14.7	14.50	14.75	14 25	15.88	14.50	16 .25	15.50	16.50	15.75	8,690
Bonanza, g	10	300,000	1 88	1.75	1.88	....	1 88	....	1.88	....	2.00	1.88	1 88	....	5,58
Boston q	10	100,00	....	....	....	....	6.25	....	....	....	....	....	....	....	10
Boston & C C	2	20,000	....	....	....	....	....	....	.20	.15	.20	.15	....	....	6,250
Bos.&Mon,Tr. R	25	150,000	360	356½	356	355	....	....	....	....	357	356	....	....	173
Breece	25	200,000	....	....	....	....	....	....	....	....	....	....	2 5	2.88	700
British Col	5	200,000	11.88	11.50	12.00	11.50	12.00	11.75	12.5	12 0	12.38	12.25	12 75	12.25	3,363
Butte & Bost., c	10	200,000	78.00	77 00	....	....	....	....	....	....	78.00	77.25	78 00	....	710
Cal. & Hecla, c	25	100,000	....	....	....	....	....	....	....	....	835	830	....	....	29
Catalpa, s	10	200,000	....	....	....	....	....	....	....	....	....	....	883	....	....
Centennial, c	25	90,000	35.00	34	34.25	....	....	34.25	34.0	33.75	34.0	33.50	35 0	35	9,660
*Cochiti, g	10	150,000	13 88	13.50	13.50	13.25	....	....	....	....	13.50	13 25	13.25	13.00	13.0	925
Cochiti Rgts	....	....	....	66	.55	.65	.55	60	....	....	.65	55	.60	.45	.50	40	10,941
Copper Range	10	100,000	44.00	....	....	....	....	....	....	....	....	....	43.5	43 00	43 00	....	560
Crescent, s	10	300,000	....	....	....	....	....	....	....	....	....	....	....	....	....
Dominion Coal	100	125,000	56.50	55.25	56 25	55.25	56.00	54.25	56 25	54.50	54 75	54.25	54 75	54.00	12,156
do. pref	100	23,000	....	....	117	....	....	....	112	....	117	....	....	....	48
Federal Steel	100	464,843	60.25	60.00	60 50	61 25	6.25	....	61 25	61.50	61 00	59.88	60.25	59.50	3,781
do. pref	1 0	532,610	....	....	91 25	92 00	....	....	....	....	83.00	....	....	....	85
Franklin, c	25	100,000	21.00	20 25	21.00	20.75	20.88	20 75	21 00	20.88	21 25	20.88	....	....	1,665
Gold Coin, s	5	200,000	....	....	....	....	....	....	....	....	....	....	....	....	....
Guanajuato	5	114,000	....	....	....	....	....	....	....	....	....	....	....	....	....
" pf.	5	81,164	....	....	....	....	....	....	....	....	....	....	....	....	....
Humboldt, c	25	40,000	2.88	....	....	....	3.00	2.88	....	....	3 0	....	2.88	....	451
I. Royal Con. c	25	100,000	53.25	51.50	52 25	51.88	51 00	50.5	52 00	51.00	51 63	51.50	....	....	2,111
Mass., Con	25	100 000	12.50	....	....	....	....	....	13 00	....	13.00	....	12.75	12 50	320
Merced, g	15	100,000	....	....	....	....	....	....	....	....	1.75	11.50	11.25	12.0	11.75	750
Michigan	25	100,000	....	....	....	....	....	....	....	....	13 50	....	13.00	....	110
Mohawk, c	25	100,000	....	....	26 00	....	....	....	....	....	....	....	....	....	160
Napa	7	100,000	....	....	....	....	....	....	....	....	10.00	....	....	....	100
New Idria	5	100,000	....	....	....	....	....	....	....	....	....	....	....	....	....
N.A.Gold Dre'g	10	100,000	36.00	35.5	....	....	....	....	....	....	34.50	....	34.25	....	750
Old Colony, c	25	100,000	10.00	9.00	9.00	....	....	....	9.00	....	9.88	9.0	10 13	0	....	1,248
Old Dominion,c	25	150,000	38 00	37 75	37.75	....	....	....	....	....	38 00	....	37.50	37.50	317
Osceola, c	25	93,000	91.25	....	91.5	90.50	....	....	....	....	91 50	91.00	90.75	90.5	90.25	81
Parrot, s c	10	229,850	54.75	54 0	53.50	....	54.	53 25	53.50	53.25	53.00	....	53 50	52.50	1,698
Pioneer, g	10	100,000	....	....	....	....	....	....	....	....	2 18	....	....	....	80
Quincy, c	25	100,000	160	....	....	....	155	....	158	155	158	....	158	....	148
Rhode Island	25	100,000	....	....	7.50	....	....	....	....	....	....	....	7.50	....	200
Santa Fe, g. & c	10	250,000	14 50	13.88	14.00	13.63	14.00	13.63	14.38	13.25	4 .3	13 25	14 00	13.50	4,445
San. Ysabel, g.	5	130,000	12.75	....	12.75	....	....	....	13 88	13.00	13.75	13 00	....	....	943
Tamarack, c	25	60,000	230	226	228	....	228	....	228	....	....	....	225	....	141
Tecumseh, c	25	50,000	....	....	....	....	....	....	5 50	....	6.00	5 75	5.75	5.50	293
Tri Mountain	25	100,000	11 0	10 50	....	....	....	....	....	....	....	....	....	....	875
Union C L	25	80,000	8.00	....	....	....	....	....	....	....	....	....	....	....	10
United States	25	250,000	28 75	27.50	28 0	27 5	8 25	27.38	31 0	28.0	32.50	30 75	33.63	32.00	47,426
Utah Cons,g &c	5	300,000	44 50	44.0	44.25	44.13	44.00	....	44.75	44 25	45.0	44.50	45.00	44.50	2,545
Victoria	25	100,000	5.00	....	....	....	....	....	5.00	....	5.00	....	....	....	515
White Knob	100	50,000	10.00	8.25	8.00	....	....	....	....	....	....	....	....	....	400
Winona, c	25	100,000	13 75	11.75	12.50	....	....	....	....	....	....	....	....	....	1,150
Wolverine, c	25	60,000	48.00	....	....	....	....	....	....	....	48.0	47.50	47.75	47.00	48.00	47.50	765
Wyandotte	25	100,000	6.50	....	....	....	....	....	....	....	6.25	6.00	....	....	....	....	305

†Official quotations Boston Stock Exchange. Total sales, 144,443. * Ex-rights.

COLORADO SPRINGS, COLO.‡

Name of Company.	Par val	Aug. 8. B.	Aug. 8. A.	Aug. 9. B.	Aug. 9. A.	Aug. 10. B.	Aug. 10. A.	Aug. 11. B.	Aug. 11. A.	Aug. 15. B.	Aug. 15. A.	Aug. 16. B.	Aug. 16. A.	Sales.
Alamo	$1	.09¼	....	09¾	09¾	.11	09¾	.11	09¾	10	.19	.10	....	8,000
Anaconda	5	.50¼	.53	.52	.50	....	.50	....	.51	.52	.53	....	....	4,500
Arg'ntum J	1	.26¾	.27	.26¾	.27	.26¾	....	.25¾	....	.26	....	.27	.29	4,900
Cadillac	1	.03¾	.03¾	.03¾	03	.03¼	.01	.03¼	.04¼	.03	.02¾	.03¾	....	41,500
C. C. Con	1	.11¾	.11	.11¾	.11¾	.11¾	.12¼	.11¾	.2¾	.12	.12¾	.13¾	.13¾	51,85
Dante	1	.13¾	.14	.14	.14¼	.14¾	.14¾	.14¾	....	....	....	....	....	203,75
ElktonCon	1	.93¾	.93	.93¾	.93¾	.93¾	.93¾	.93¾	.95½	.96	.91¾	.95¾	....	1,00
El Paso G	1	.40	.41	....	.39¾	.41	.41¾	.41	.4 ¾	.44	.45	.44½	.43	37,491
Favorite	1	.01¾	014	.04¾	.04¾	.01¾	.04¼	.04¾	.04½	....	....	....	....	20,300
Findley	1	.18¾	.18¾	.18¼	.19	.19¼	.19¾	.19¼	.19¾	.18¼	.18¾	.18¾	.18¾	6,500
Golden Fl	1	.25¾	.30	.25	.30	....	.25½	....	.2 ¾	.28	.25	.30	....	1,00
Gold Hill	1	.03¾	.04	.03¾	.03¾	.03¾	.03¾	.03¾	....	....	....	....	....	61,00
Ing. Con	1	.08¾	.09	.08¾	.09	.08¾	.08¾	.08¾	....	....	....	....	....	8,500
Isabella	1	.87¾	.88¼	.89¾	.90	.90¼	91	....	.92	.93	.93½	91¾	....	8,000
Jack Pot	1	.44¾	44¾	45½	.46¾	46¾	46¾	....	.46¾	49¾	.49¾	.5 ¾	.51	75,150
Lexington	1	.14	.14¾	14	14¼	.14	.14¾	.14¾	....	....	....	....	....	161,03
Magnet R	1	.05	.04¼	.04¾	.04¾	.05	.4¾	.04¼	....	....	....	....	....	66,700
Maton	1	.33¾	.32½	32¾	.33	.33¼	.33¾	.33¾	.33¼	.34¼	.33	.35	....	21,50
Midway	1	.06¾	.06¾	.6¾	.06¾	.06¾	.06¾	.06¾	....	....	....	....	....	11,700
Mobile	1	.03¼	.0 ¾	.05¾	.05	.05¾	.05¾	.05¾	....	....	....	....	....	41,00
Mollie Gib	1	....	.28	.25	....	5	....	.2¼	.25	.26½	.25	.26½	....	27,300
Montreal	1	....	.09	....	.02	.04	.09	.08	.09	....	....	....	....	1,00
Moon-A'c'r	1	1.09	1.10	1 08¾	1.10	1 08¾	....	1.08	1.10	1.12½	1.04	1.00	1.03¼	1,50
Mt. Rosa	1	.25	....	.25	....	.25	....	.25¼	....	.27½	.30	.26	.20	7,000
New Haven	1	.03¾	03¾	.03¾	.03¼	.03¾	.03¼	.03¾	....	....	....	....	....	200
Oriole	1	.07	.07¾	.07¼	.07¾	.07¼	.07¾	.07¼	....	....	....	....	....	53,000
Pilgrim C	1	.06¾	.03¾	.03¾	.08	.06¾	.07	.06¾	.07	....	....	....	....	116,000
Pinnacle	1	24¼	.24¾	.25¾	.25¾	.26¾	.26¼	.27	.28	.29	.24¾	.25	.

STOCK QUOTATIONS.

DENVER, COLO.‡

Name of Company.	Par val.	Aug. 7 B.	Aug. 7 A.	Aug. 8 B.	Aug. 8 A.	Aug. 9. B.	Aug. 9. A.	Aug. 10. B.	Aug. 10. A.	Aug. 11. B.	Aug. 11. A.	Aug. 12. B.	Aug. 12. A.	Sales.
Mines:														
Anac'da G.	$5	.48	....	.49¾	.50¾	.50	.52	.50¾	. . .	.50¾	.52	.51	....	1,500
Ariz. J..	1	....	....	.26½	....	.26¼	....	.26	....	.27	.28½	.27¼	.29	....
Bangkok..	1	....	....	.01⅜	....	.0 1⅜	....	.01⅜	....	.01	....	....	....	....
Bankers....	1	.09¼	.10	.10⅜	.09¾	.09⅜	.10	.10	....	.10¾	.10¾	.10⅜	....	21,000
CrippleC..	1	.11½	....	.10⅝	..	.11⅜	.12¼	.11⅜	....	.12⅜	.12⅝	....	.13¾	1,000
Della S....	1	....	....	.03	....	.03	....	.03	....	.03	....	....	....	....
Elkton Con	1	.93¾	.93⅞	.93	....	.93	....	.93⅜	.95	.94¾	.94¾	.94	.95	....
El Paso..	1	....	....	.40	....	....	....	....	....	....	....	....	....	....
Fanny R....	1	....	....	.44	....	.45	.47	....	....	.42¾	....	....	....	....
Findley....	1	.18¾	.19	.18⅝	.18¾	.18⅜	.19	....	....	....	....	.19	....	....
Garf. Con..	1	....	1.75	.16¾	.17	....	1.75	.16¾	....	....	....	....	....	1,000
Gold Coin.	1	2. 5	2.10	2.05	2.15	2.05	2. 5	2.05	2 15	2 05	2. 5	2.00	....	100
Independ'nc	1	.60½	....	.55	....	.58¾	....	.58¾	....	....	....	.50	....	....
Iron Clad..	1	.06¾	....	.05¾	.05¾	.06¾	.06¾	.06¾	.06¾	.06¾	.06¾	.06¼	.06½	4,000
Isabella....	1	.87½	....	.87½	.88¾	....	.88¾	91	.92	93¾	1.00	.93	.95¾	4,200
Jack Pot..	1	.43¾	....	.44	....	.46	....	.46¾	.50	....	.47	....	....	....
Jefferson..	1	....	.08	.07¾	.08	.07½	.08¾	.07¾	....	....	....	....	....	....
Keystone..	1	....	....	.12¾	.14¾	.11¾	.12¾	.12¾	.12¾	12	....	.28¾	....	1,000
LosAngeles	1	.09¼	....	.08¾	....	.09¼	10	10¾	.10¾	.10¾	....	.09¾	....	1,000
Mollie Gib.	5	.25¾	....	25	.29	.26½	.28	.27	.29	25	.30	.25	.29	....
NewZealnd	1	.30¾	.32	.31	.31¾	.31	.32	.31¾	....	.31¾	....	.32½	....	1,000
Ophir....	1	.35	.40	.33¾	.40	.36¾	.37¾	.37	.40	.36	.38	....	....	....
Pharmacist	5	.15¾	....	....	....	.04¾	.05	....	....	....	....	....	....	....
Portland..	1	1.95	....	1.95	....	....	2.00	1.95	2.00	1.96¾	....	1.96¼	....	....
Specimen..	1	.11¾	....	.12¾	....	.12	....	.12	....	.11¾	....	.11¾	....	....
Union Gold	1	34	....	.35	....	....	.35¾	....	.34½	35¾	....	....	....	....
Work....	1	.26¾	....	25¾	.26½	26¾	....	.27	....	.27¾	....	.26¾	....	4,000
Prosp'cts:														
C C Imp	1	....	....	....	....	....	....	....	....	....	....	....	....	....
Gene Field.	1	....	....	....	....	....	....	....	....	....	....	....	....	....
Illinois ..	1	.01	....	.01	.01¾	.012	....	.01	....	.011	....	....	.01¾	4,000
Old Gold...	1	.01¾	.01⅝	.01¾	.01⅝	.01¾	.01⅝	....	....	.01⅝	.01¾	....	....	....
Puritan	1	....	....	....	....	....	....	....	....	....	....	....	....	....
Miscell.‡														
Acacia....	1	.17¾	....	.17⅝	.18	.17¾	.18⅛	.17¾	.16¾	.17⅝	.18	.17⅛	.17⅝	16,000
Alamo.....	1	.09¾	.10	.09¾	....	.09⅝	.09⅝	....	....	.09¾	.10	....	....	....
Aola....	1	.03½	.05	.08⅝	.04	....	.03½	.03⅝	....	....	.04	....	....	....
Battle Mt..	1	.32	....	.32	.34	.32	.33	.32	.33½	.32	....	.3 ½	....	....
C C. & M...	1	.11¾	....	.12½	.14¾	.13¾	....	.13⅝	....	....	....	.13⅝	.14	6,000
De Beers....	1	.011	.013	0	....	.01⅜	.012¾	....	....	....	....	01	.01¾	....
Des Moines	1	....	....	.04¾	.04¾	.04¾	.04¾	.04¾	....	.04¾	....	.04½	....	....
Favorite..	1	....	....	.04⅝	.04¾	.04¾	.04⅝	.04¾	.04¾	.04⅝	....	.04⅝	....	2,000
Goldstone.	1	.01⅜	....	.01⅜	....	.0.9¾	.01⅜	.0.5⅜	.01⅝	.01⅜	....	.01⅜	.01⅜	27,000
Insley.....	1	....	....	....	....	....	....	....	....	....	....	....	....	....
Magnet R...	1	.04⅜	.04¾	.04⅜	.05	.04⅜	.04⅞	.04⅜	.04¾	.04⅜	.04¾	.04⅜	.05	5,000
Mobile....	1	.05¼	....	.05¼	....	.05¼	.05¾	.05⅜	....	.05¼	....	.05⅜	....	....
Trachyte..	1	....	....	.05	.06¾	.06⅜	.07	.06¾	.06¾	.06¾	.06¾	.06⅜	.07	1,000
Wh.of For.c	1	.009	....	.009	.011	.009½	....	.009	....	.009	....	.011	.0 3½	....

‡ Official Quotations Denver Stock Exchange. Total sales, 100,800 shares.

SAN FRANCISCO, CAL.

Name of Company.	Location.	Par. value.	Aug. 10	Aug. 11	Aug. 12.	Aug. 14	Aug. 15.	Aug. 16.
Alpha Con.	Nev.	1.00	.03	.03	.06	.07	.08	.07
Alta.....	"	2.00	.07	.07	.07	.07	.07	.06
Andes.....	"	3.00	.19	.19	.19	.19	.18	.18
Belcher....	"	3.00	.29	.28	.28	.37	.36	.36
Best & Belcher	"	3.00	.70	.70	.70	.70	.66	.66
Bullion.....	"	1.00	.09	.10	.10	.09	.09	.09
Caledonia ..	"	3.00	.69	.69	.69	.68	.70	.70
Challenge Con	"	3.00	.28	.28	.31	.30	.28	.28
Chollar.....	"	3.00	.25	.25	.24	.24	.25	.22
Confidence..	"	3.00	9	.92	.88	.90	.88	.86
Con. California & Virginia...	"	2.50	2.20	2.15	2 15	2.15	2.10	2.05
Cons. Imperial	"	1.00	.01	.01	.01	.01	.01	.01
Crown Point	"	3.00	.28	.28	.28	.26	.26	.24
Gould & Curry	"	3.00	.47	.45	.44	.46	.44	.43
Hale & Norcross	"	3.00	.34	.34	.34	.34	.34	.33
Julia Con....	"	1.00	.03	.02	.03	.03	.03	.03
Justice.....	"	2.00	.18	.18	.18	.17	.18	.16
Kentuck Con.	"	1.00	.01	.05	.05	.05	.05	.03
Mexican.....	"	3.00	.57	.56	.56	.59	.56	.55
Occidental Con	"	3.00	.22	.22	.24	.23	.21	.21
Ophir.....	"	3.00	1.20	1 20	1.2	1.20	1.15	1. 5
Overman.....	"	2.00	.15	.14	.14	.13	.13	.12
Potosi.....	"	3.00	.4	.47	.45	.44	.42	.41
Savage.....	"	2.50	.27	.25	.25	.25	.23	.22
Seg. Belcher & M.	"	2.00	.18	.07	.7	.07	07	.07
Sierra Nevada	"	3.00	.64	64	.62	.64	.65	.73
Standard....	Cal.	10.00	2.75	2.75	2.75	2.75	2.85	2.80
Union Con....	Nev.	2.50	.34	35	.34	.34	.33	.32
Utah Con....	"	1.00	.11	.10	.11	.0	.11	.10
Yellow Jacket	"	3.00	.38	.37	37	.37	.36	.35
....	....	....	....	....	....	....	....	....
....	....	....	....	....	....	....	....	....
....	....	....	....	....	....	....	....	....

Official telegraphic quotations of San Francisco Stock Exchange.

TORONTO, CAN.*

Name of Company.	Par val.	Aug. 9. H.	Aug. 9. L.	Aug. 10. H.	Aug. 10. L	Aug. 11. H.	Aug. 11. L	Aug. 12 H.	Aug. 12. L.	Aug. 14 H.	Aug. 14. L.	Aug. 15. H.	Aug. 15. L	Sales
Ontario:														
Alice A.....	$1	19¾	. 8	.19⅝	.17	.21	19	.20	.19	21	18¾	.22	.19	1,900
Bullion.....	1	6	....	.60	....	.63	....	.63	....	.63	....	.61	....	....
Empress....	1	05¾	.04¾	05¾	.04⅝	.06	.03¾	.06	.04¾	06	.04¾	.05¾	.05	2,000
Golden Star	1	47	.46¾	47⅝	.41¾	.4	38	.40	.40	.43	4.3⅝	43	.42¾	39,650
J. O. Al. ..	1	04	03¾	.04⅝	.04¾	.04¾	.03¾	.04	.03¾	04¾	03¾	.04	.03¾	12,500
Olive	1	85	.79	.85	....	....	....	.82	....	.85	....	85	....	500
Sup. G. & C.	1	27½	24¾	....	....	....	....	....	....	.27	.25	27	24¾	8,000
British Col.:														
Athabasca..	1	.39	37	.4	.37	.40	.37¾	.40	38	.47	.38	.38½	.37½	....
Big Tnree	1	1.3⅝	13¾	16	.13	.6	13	16	14	16	.13¾	15	.3	3,500
Dardanelles	1	.13¾	....	.13⅝	....	14	....	.6	.14	15	.14¾	.4 ¼	.11	4,.10
Deer Park..	1	.06	.03	.05	.02¾	.04¾	.02¾	.03¾	.02¾	.03¾	.03¾	.4¾	.02¾	8,500
Deer P'l'No 2	1	.26¾	.24¾	.27	.24¾	.25¾	.24¾	.24	.24	.26	.24	.26	.24	13,400
Evening Star	1	.09½	....	.09¾	....	.03	....	.10¾	.09½	....	.09	....	.09¼	....
F'view corp	¾	08½	03¾	....	....	....	....	....	.08¼	.08	.09	.03¾	04¾	4.75
Knob Hill .	1	.96	94	....	....	....	....	96	.94	.96	.93	....	....	....
Minnehaha.	1	.22½	21	.22½	.20½	.22	.21¾	.22	20	22	.20	.22	.20	2,100
Noble Fly ..	1	.22	....	.23	....	22	....	.22	....	24	18	.24	....	....
N'rt'n Belle.	1	.03	.02¾	.04¾	.02¾	.02¾	.03¼	.03¾	.03¾	.03¾	.03¾	.03¾	.03¼	29,50
Old Irons'es	1	1.08	1.03	....	....	....	....	....	....	....	....	....	....	....
Rambler C..	¾	.35	30	.38	28	.35	.32	.32	....	36	.32	33	.31¼	3,500
Rathmullen	1	07½	06¾	.07½	06¾	.07¼	.07	.07¾	.07½	.7¾	.07¼	.07½	.01½	7,500
Republic..	1	1.2	1 20	1.25	1.18	1 22½	1.19	1.26	1.22	1 26	1.20	1 28	1.24	2,200
Silver Bell..	¾	33¾	.31½	05	.03¾	.05	.03¾	04¾	.04¼	.05	.04¼	.05	.05	18,000
Smuggler...	1	02	01¾	.02	.01¾	.02	.01¾	02	.01¾	02	.01¾	.02¼	.01¾	3,500
Van Anda ..	1	.11	10½	.11¾	.10½	.11	.01¾	.1¾	.10½	1.3¾	.10¾	.01¾	.10	17,750
Victory Tri.	1	06	03	.06	.01	06	.04¾	.0	.0 ¾	06	.05¾	08	03¾	3,.00
Waterloo..	.10	09	.03¼	.09	.03¼	.09	.08	.09	.08¾	.10¾	.08¾	.09	.08	9,500
White Bear.	1	03¾	03¼	.04	.03¾	.04	.03½	.13	.04¾	.03	.04¾	04	....	....
Winnepeg ..	1	29½	25¾	.30	.25	29½	28	.29¾	.28	29½	....	30	.27	2,000
Develop Co.														
B.C.G.F'lds	1	.05	.03¼	....	....	....	....	....	....	.04½	.03¾	.04½	.03¾	....
Can G.F.S..	0.10	.07½	06¾	....	....	....	....	....	....	.07¾	.06¾	.07	.06¼	....
Gold Hills	1	.06¾	.05¾	.06¼	.03¾	.06¾	.03½	.06¼	.03½	.06	.05	.06	.03½	7,000

*Official quotations of the Standard and Toronto Mining and Industrial Exchanges. Total shares sold, 209,400.

SALT LAKE CITY, UTAH.* Aug. 12.

Stocks.†	No. of shares	Par val.	Bid.	Asked.	Stocks.†	No. of shares.	Par val.	Bid.	Asked
Ajax.....	300,000	$10	$1.45	$1.50	Homestake.....	400,000	$1	$0 12½	$0 14
Alice.....	400,000	25	.70	72½	Horn Silver.....	400,000	25	1 20	1.70
Anchor.....	150,000	10	.63	1 00	Joe Bowers..	400,000	1	.21¼	.21¾
Buckeye.....	500,000	1	.....	.....	Little Pittsburg..	400,000	5	07½	12
Bullion-Beck & Ch.	100,000	10	5.60	5.80	Lower Mammoth	150,000	1	43	.43½
Centennial Eureka	30,000	50	55 01	70.00	Mammoth.....	400,000	5	2.23½	2.24½
Chloride Point....	500,000	1	.67½	.95	Mercur.....	200,000	25	6 90	6.99½
Daisy..	500,000	3	.32	.32½	Northern Light..	400,000	5	49½	49⅝
Dalton.....	500,000	1	.....	.....	Omaha.....	300,000	2	.01	.....
Dalton & Lark....	2,500,000	1	09½	10¼	Ontario.....	150,000	100	8.25	9 00
Daly.....	150,000	20	1.38	1.50	Richmond-An. ..	500,000	1	11	.12
Daly West.....	150,000	20	12.10	12 15	Sacramento	1,000,000	5	45½	47½
Dexter.....	200,000	5	2.39	2.40	Silver King.....	150,000	20	46 00	.....
Eagle.....	150,000	1	.07½	.08	Star Consolidat'd	500,000	1	.70	.74
Eagle & Blue Bell.	250,000	1	1 80	1.90	Sunbeam.....	250,000	1	.52½	55
Emerald.....	300,000	1	.....	.....	Sunshine.....	250,000	10	60	.66
Four Aces.....	250,000	1	28½	.29	Swansea.....	100,000	5	4 20	4.25
Galena.....	100,000	10	83	85	South Swansea..	150,000	1	1 73	1 80
Geyser-Marion.....	300,000	5	47½	47¾	Utah.....	100,000	1	.72½	1.20
Grand Central	250,000	1	9 35	9.42½	Valeo.....	200,000	10	.....	.....

*From Our Special Correspondent. † Utah companies. ‡ Mines in Vanderbilt, Cal. Mines in Tuscarora, Nev.

ROSSLAND, BRITISH COLUMBIA.* Aug. 9.

Name of Company.	No. of shares.	Par value.	Selling price.	Name of Company.	No. of shares.	Par value.	Selling price.
Brandon & Gold. Cr..	1,500,000	$1	$0.25	Lerwick.....	500,000	$1	$0.15
Brit. Amer. Corp'at'n	7,500,000	5	5 50	Lily May.....	1,000,000	1	10
Brit.Col. Dev. Co..	1,500,000	2½	.....	Lon.&Van.Fin.Dev.Co	500,000	5	.....
Canadian Gold Fields	10,000,000	0.10	.10	London B. C. Gold F..	250,000	5	7.50
Cariboo.....	1,500,000	1	1.15	Monte Cristo	1,000,000	1	.....
Commander.....	500,000	1	.....	New Gold Fields, B.C.	250,000	1	5.00
Deer Park.....	1,000,000	1	.....	Novelty.....	1,000,000	1	.....
Dundee.....	1,000,000	1	15	Queen Bess Prop....	120,000	5	5.50
Evening Star.....	1,000,000	1	.10	Rambler Con.....	1,000,000	1	.30
Fern	200,000	¼	50	Reco.....	1,200,000	1	.....
Gold Fields of B.C...	3,000,000	3½	5.00	Red Mt.View.....	1,000,000	1	.....
Hall Mines.....	250,000	5	3.00	St. Elmo.....	1,000,000	1	.05
Hattie Brown.....	1,000,000	1	.....	St. Paul.....	1,000,000	1	.....
Homestake.....	1,000,000	1	.07	Sarah Lee.....	1,000,000	1	.....
Iron Colt.....	1,000,000	1	.....	Silver Queen.....	1,500,000	1	.15
Iron Horse.....	1,000,000	1	.....	Slocan Star.....	500,000	1	1.25
Iron Mask.....	500,000	1	.67	Vic.Tr. MinesDev. Co.	25,000	5	.....
Josie	700,000	1	.....	Virginia	500,000	1	.....
Jumbo.....	500,000	1	.10	War Eagle Con.....	2,000,000	1	3.65
Kenneth.....	1,000,000	1	.....	Waverly Mines.....	100,000	5	.....
Keystone.....	1,500,000	1	.....	White Bear.....	3,000,000	1	.10
KootenayGold Fields	20,000	5	.....	Wild Horse.....	400,000	1	.....

* From Our Special Correspondent.

MEXICO. Aug. 4.

Name of Company.	No. of shares.	Last div'd.	Prices. Op'g	Prices. Cl'g.	Name of Company.	No. of shares.	Last div'd	Prices. Op'g.	Prices. Cl'g.
Chihuahua:					Hidalgo:				
Gloria.....	1,500	.....	$50	$50	Real del Monte..	2,354	10 00	730	200
Durango:					San Francisco Ho	6,000	2.00	190	190
Barradon y Cab ...	2,400	.....	40	40	San Rafael y An.	1,200	10.00	1,100	1,000
Candelaria de Pan.	1,200	.....	20	20	do. aviado	1,200	6.00	420	400
Capuzaya.....	2,400	.....	3	30	do. del Oro.....	3,000	5.0	10	20
Penoles.....	2,500	30.00	2,000	2,000	Soledad.....	960	5.00	290	300
Restauradora.....	10,000	.....	20	20	Sorpresa..	960	5.00	240	240
Rosario y Anexas..	4,800	.....	10	10	Union Hacienda.	2,000	5.00	70	360
Guanajuato:					Mexico:				
Angustias.....	2,400	5.00	350	340	Coronas.....	500	....	5	75
Cinco Senores y An	2,000	15.00	360	330	Esperanza y An..	3,000	10.00	1, 00	1,520
El Oro.....	500	.....	30	30	Michoacan				
do. pref.	2,000	.....	30	30	Luz de Borda ava	4,000	.....	30	30
Guadalupe Hacie'a	10,000	5.00	250	240	Pueblo:				
Trinidad, aviador .	2,000	.....	90	80	Tlauzingo.....	2,400	.....	27	28
do. aviada.....	400	.....	8	70	S. Luis Potosi:				
Zona Minera de Paz	2,400	.....	68	65	Concep. y An....	2,400	.....	60	100
Hidalgo:					Sta.MariadelaPaz	2,400	10 00	715	720
Amistad y Concord.	9,600	1.52	32	32	Zacatecas:				
Arevalo.....	720	.....	200	200	Asturiana y An..	2,500	10.00	140	180
Sartolome de Med.	2,000	3.00	70	65	Cabezon	2,400	.....	15	15
Carmen.....	1,100	7.75	450	400	C'delar. de Pinos.	2,500	.....	95	90
Luz de Maravillas..	900	.....	120	120	Palma de Bomb..	2,400	.....	80	80
Pabellon.	800	27.89	20	20					

NOTE.—In most of the older Mexican mining companies the shares have no fixed par value. The capital is formed of a certain number of shares, the total value not being named. Many newer companies have a nominal par value, usually $50 or $100. Prices are in Mexican dollars.

PARIS July 27.

Name of Company.	Country.	Product.	Capital Stock.	Par value.	Latest divs.	Prices. Op'ning	Prices. Closing.
			Francs.	Fr.	Fr.	Fr.	Fr.
Acieries de Creusot..	France.....	Steel mfrs..	27,000,000	2,000	75.00	2,077.50	2,045.00
" " Firminy..	"	" " ..	3,000,000	500	85.00	3,700.00	3,725.00
" " Fives-Lille..	"	" " ..	12,000,000	500	35.00	572.00	570.00
" " Huta-Bank..	Russia.....	Iron & steel	.....	500	.....	4 4 0.00	4,380.00
" " la Marine..	France.....	Steel mfrs..	20,000,000	500	40.00	1,670.00	1,680.00
" " Longwy....	"	" " ..	.....	500	35.00	1,265.00	1,265.00
Anzin.....	"	Coal.....	.....	.....	190.00	5,799.00	5,800.00
Blache-St. Vaast....	"	Steel.....	.....	1,000	160.00	3,800.00	3,800.00
Boleo.....	Lower Cal..	Copper.....	.....	500	1.07	2,650.00	2,650.00
Briansk.....	Russia ...	Coal & Iron	.....	500	.....	1,260.00	1,252.50
Bruay.....	France....	Coal.....	3,000,000	400	900.00	44,200.00	44,600.00
Cape Copper.....	S. Africa..	Copper.....	15,000,000	50	1.50	108.50	108.50
Champ d'Or.....	"	Gold.....	5,375,000	25	3.75	34.00	36.75
Courrieres.....	France....	Coal.....	400,000	800	60.00	2,480.00	2,450.00
De Beers Consolidated..	S. Africa..	Diamonds ..	98,750,000	125	15.63	726.00	714. 0
Denain-Anzin.....	France.....	Steel.....	.....	500	20.00	950.00	960.00
Dombrowa.....	Russia ..	Coal.....	.....	500	12.50	1,088.00	1,080.00
Donetz.....	"	Steel.....	.....	.....	.....	1,330.00	1,320.00
Dourges.....	"	Coal.....	1,000	300.00	.....	24,800.00	24,995.00
Dynamite Centrale.....	France....	Explosives..	.....	500	12.50	540.00	525.00
Epinac	"	Coal.....	2,500	20.83	.....	575.00	575.00
Escombrera-Bleyberg..	Spain.....	Lead.....	.....	500	35.00	1,020.00	1,098.00
Fraser River.....	Brit. Col'mb	Gold.....	250,000	25	3.75	7 00	7.00
Huanchaca.....	Bolivia	Silver.....	40,000,000	125	5.00	52 50	52.50
Langlagte Estate....	S. Africa..	Gold.....	11,750,000	25	11.25	88 00	88.00
Lagunas.....	Chile.....	Nitrates	16,250,000	125	12.50	30.0	29 00
Laurium.....	Greece.....	Zinc & lead..	16,300,000	500	30.00	600 00	620 00
Lautaro.....	Chile.....	Nitrates....	13,750,000	125	.....	9 .00	91.00
Malfidano.....	Italy.....	Zinc.....	12,500,000	500	40.00	1,325.00	1,320.00
Metaux, Cie. Fran. de..	France.....	Metal d'iers.	25,000,000	500	30.00	530.00	524.00
Mokta-el-Hadid.....	Algeria....	Iron.....	18,312,500	500	40.00	1,350 00	1,211 00
Napthe Baku.....	Russia.....	Petroleum..	.....	.....	.....	878.00	860.00
Napthe, Le.....	"	" ..	.....	.....	.....	2,000 0	2, 0.0.00
Napthe Nobel.....	"	" ..	.....	.....	.....	657.50	645.00
" " parts....	"	" ..	.....	.....	.....	13,400.00	12,975.00
Nickel.....	N.Cal'd'nia	Nickel.....	10,000,000	250	30.00	395 0	384.00
Penarroya.....	Spain.....	Coal, etc...	.....	500	65.00	2,487 50	2,470.00
Rebecca.....	Colo'do, U.S.	Gold.....	5,000,000	25	.....	6.00	6.00
Rio Tinto.....	Spain.....	Copper.....	40,625,000	125	47.70	1,16 .00	1,179.00
" " preferred....	"	" ..	40,625,000	125	.....	153.50	154 50
Rive-de-Gier.....	France.....	Coal.....	.....	.....	.....	19.25	20.00
Robinson.....	S. Africa..	Gold.....	68,750,000	125	12.50	2.8 00	28 0.0
St. Etienne.....	France.....	Coal.....	.....	.....	18.00	464 00	47 .00
Salines de l'Est.....	France.....	Salt.....	.....	500	11.5.	262.00	260.00
Salines du Midi.....	France.....	" etc.....	.....	500	25.00	875.00	875 00
Seis Gem.de la Rus.Mer	Russia.....	" etc.....	.....	500	25.00	560.00	547.00
Tharsis.....	Spain.....	Copper.....	33,750,000	50	8.75	209.0	209 00
Vicoigne-Neux.....	France.....	Coal.....	.....	1,000	7 0.00	24,000.0	24,0.0.00
Vielle Montagne.....	Belgium....	Zinc.....	9,000,000	80	30.00	796.5.	820.00

STOCK QUOTATIONS.

LONDON.

Aug. 4.

Name of Company.	Country.	Authorised capital.	Par value.	Last dividend. Amt.	Last dividend. Date.	Quotations. Buyers	Quotations. Sellers
		£	£ s. d.	s.d.		£ s. d.	£ s. d.
Alaska Goldfields	Alaska	300,000	1 0 0	2 6	July, 1899	1 1 3	1 3 9
Alaska-Mexican, g	"	200,050	1 0 0	0 4.8	May, 1899	1 17 6	1 2 6
Alaska-Treadwell, g	"	1,000,000	5 0 0	1 6	July, "	4 10 0	4 15 0
Anaconda, c., s	Montana	6,000,000	5 0 0	5 1¼	May, 1899	11 5 0	11 10 0
Chiapas, g., s., c	Mexico	252,500	1 0 0	.....	.....	5 0	7 0
Con. Gold Fields	"	300,000	1 0 0	.....	.....	15 0	1 0 0
De Lamar, g., s	Idaho	400,000	1 0 0	6	May, 1899	2 6	3 6
Elkhorn Priority (New), s	Colorado	87,500	1 0 0	1 0	June, 1898	1 3	3 9
Golden Gate, g	California	80,000	1 0 0	.....	.....	1 0	2 0
§Grand Central, g., s	Mexico	300,000	1 0 0	2 0	Mar., 1899	17 6	1 2 6
Hall Mines, c., s	British Col.	250,000	1 0 0	1 0	May, 1898	10 0	12 6
Le Roi, g	"	1,000,000	5 0 0	.....	.....	7 2 6	7 5 0
*Lillie, g	Colorado	250,000	1 0 0	2½	Aug., 1899	1 6 3	1 8 9
Montana, g., s	Montana	660,000	1 0 0	6	Apr., 1899	4 0	5 0
Mountain Copper	California	1,250,000	5 0 0	2 6	Sept., 1898	8 2 6	8 5 0
Newfoundland, c	Newfoundland	250,000	1 0 0	.....	.....	15 0	1 0 0
Palmarejo & Mexican, g., s	Mexico	800,000	1 0 0	.....	.....	2 0	3 0
Plumas-Eureka, g	California	281,250	2 0 0	0 6	Oct., 1896	1 3	2 6
Richmond, g., s., l	Nevada	270,000	5 0 0	1 0	Dec., "	5 0	6 3
Sierra Buttes, g	California	245,000	2 0 0	0 6	Apr., "	6	1 0
Colomb. Hydraulic, g	Colombia	75,000	1 0 0	6	Jan., 1899	6 3	8 9
Copiapo, c	Chile	200,000	2 0 0	6 0	July, 1899	3 13 9	3 16 3
Frontino & Bolivia, g	Colombia	140,000	1 0 0	1 6	June, 1899	2 2 6	2 5 0
St. John del Rey, g	Brazil	600,000	1 0 0	1 3	June, 1899	1 7 6	1 10 0
Tolima A., s., g	Colombia	70,000	5 0 0	5 0	July, 1897	2 5 0	2 15 0
Tolima B., s., g	"	80,000	5 0 0	5 0	" "	1 0 0	1 10 0
UtahCon., g (High'ndBoy)	Utah	300,000	1 0 0	rts.	Mar., 1898	8 15 0	9 5 0
Velvet, g	British Col'mbia	100,000	1 0 0	.....	.....	1 11 3	1 13 9
Ymir, g	"	200,000	1 0 0	.....	.....	1 3 9	1 6 3
British Am. Corp.	"	1,950,000	1 0 0	rts.	Dec., 1898	1 3 6	1 4 6
Linares, l	Spain	45,000	3 0 0	12 6	Mar., 1899	7 10 0	8 10 0
Mason & Barry, c., sul	Portugal	630,000	2 0 0	5 0	May, 1899	3 15 0	4 0 0
Rio Tinto, c	Spain	1,625,000	5 0 0	1 7 6	May, 1899	44 17 6	45 2 6
" " pref	"	1,625,000	5 0 0	2 6	May, 1899	6 3 9	6 6 3
Tharsis, c	"	1,250,000	2 0 0	11 0	" 1898	8 0 0	8 5 0
Libiola, c	Italy	252,000	5 0 0	2 6	June, 1899	1 15 0	2 0 0
Assoc. Gold Mines	W. Australia	500,000	1 0 0	2 0	June, 1899	13 0 0	13 5 0
Broken Hill Prop., s	N.S. Wales	384,000	8	3 0	Aug., 1899	2 3 9	2 6 3
Great Boulder, Prop.	W. Australia	1,750,000	2	1 6	July, 1899	1 13 6	1 14 6
Hannan's Brownhill, g	"	110,000	1 0 0	7 6	Aug., 1899	13 10 0	13 12 6
Ivanhoe Gold Corp	"	1,000,000	5 0 0	5 0	July, 1899	15 11 3	15 13 9
Kalgurlie, g	"	120,000	1 0 0	rts.	Feb., 1899	1 2 6	1 7 6
Lake View Consols, g	"	250,000	1 0 0	5 0	May, 1899	27 5 0	27 10 0
Mt. Lyell M. & R., l., c	Tasmania	975,000	3 0 0	3 0	July, 1899	9 12 6	9 17 6
Mt. Morgan, g	Queensland	1,000,000	1 0 0	7	Aug., 1899	5 5 0	5 7 6
Waihi, g	New Zealand	320,000	1 0 0	2 0	June, 1899	7 2 6	7 5 0
West Aust. Jt. Stk. L. & F	W. Australia	1,000,000	1 0 0	1 0	Dec., 1898	7 3	7 7 9
Champion Reef, g	Colar Fields	220,000	10 0	3 6	May, 1899	5 6 3	5 8 9
Mysore Gold, g	"	250,000	10 0	4 0	July, 1899	5 6 3	5 8 9
Nundydroog, g	"	242,000	1 0 0	2 0	" 1899	2 16 3	3 1 3
Ooregum, g	"	145,000	1 0 0	2 6	Aug., 1899	3 15 0	3 17 6
" pref. g	"	120,000	1 0 0	2 6	" 1899	4 1 0	4 12 6
Angelo, g	Transvaal	275,000	1 0 0	5 0	Mar., 1899	7 7 6	7 10 6
Bonanza, g	"	200,000	1 0 0	11 0	June, 1898	4 7 6	4 12 6
British S. Af., chartered	So. Africa	5,000,000	1 0 0	rts.	May, 1899	3 1 3	3 3 9
Cape Copper, c	"	600,000	1 0 0	5 0	July, 1899	4 2 6	4 7 6
" " pref	"	150,000	2 0 0	5 0	" 1899	4 2 6	4 12 6
City & Suburban (New), g	Transvaal	1,360,000	4 0 0	8 0	Aug., 1899	6 0 0	6 2 6
Con Deep Level, g	"	200,000	1 0 0	x all	June, 1898	1 10 0	1 15 0
Crown Reef, g	"	120,000	1 0 0	10 0	May, 1899	17 5 0	17 15 0
De Beers Con., c	Cape Colony	3,950,000	5 0 0	21	June, 1899	27 15 0	28 0 0
Durban Roodepoort, g	Transvaal	135,000	1 0 0	5	July, 1899	6 0 0	6 5 0
Ferreira, g	"	90,000	1 0 0	30 0	Feb., 1899	24 15 0	25 5 0
Geldenhuis Deep, g	"	350,000	1 0 0	8 0	Aug., 1899	10 10 0	11 0 0
Geldenhuis Est., g	"	200,000	1 0 0	7	" 1899	7 17 6	8 2 6
§Gunsberg, g	"	160,000	1 0 0	4 0	Feb., 1899	3 15 0	3 17 6
Henry Nourse, g	"	125,000	1 0 0	10 0	June, 1899	8 12 6	8 17 6
Heriot (New), g	"	115,000	1 0 0	5 0	Aug., 1899	7 2 6	7 7 6
Jagersfontein, d	Orange Fr. St.	1,000,000	5 0 0	9 0	June, 1899	13 15 0	14 0 0
§Johannesburg Con. Invst	So. Africa	2,750,000	1 0 0	2 0	Aug., 1897	1 16 3	1 18 9
Jubilee, g	Transvaal	50,000	1 0 0	5 0	Aug., 1899	6 15 0	7 0 0
Jumpers, g	"	100,000	1 0 0	5 0	Aug., 1899	5 16 0	6 0 0
Kleinfontein, g	"	275,000	1 0 0	2 1	Mar., 1899	2 15 0	2 17 6
Langlaagte Estate, g	"	500,000	1 0 0	3 0	June, 1899	3 7 6	3 12 6
§May Con., g	"	275,000	1 0 0	rts	June, 1899	5 8 9	5 11 3
Meyer & Charlton, g	"	85,000	1 0 0	rts	Apr., 1899	6 5 0	6 10 0
Namaqua, c	Cape Colony	200,000	1 0 0	6	June, 1899	4 0 0	4 5 0
§Primrose (New), g	Transvaal	300,000	1 0 0	6	Feb., 1899	4 11 3	4 13 9
Rand Mines, g	So. Africa	400,000	1 0 0	15 0	Aug., 1899	40 2 6	40 7 6
Robinson, g	Transvaal	2,750,000	5 0 0	8 0	Aug., 1899	10 7 6	10 12 6
Sheba, g	"	1,100,000	1 0 0	0 6	July, 1898	1 3 9	1 5 0
*Sim. & Jack Prop., g	"	5,000,000	5 0 0	4 0	July, 1899	6 0 0	6 11 3
Wemmer, g	"	80,000	1 0 0	15 0	June, 1899	14 5 0	14 10 0
Wolhuter, g	"	880,000	4 0 0	2 0	Feb., 1899	5 0 0	5 5 0
Worcester, g	"	100,000	1 0 0	3 0	July, 1899	3 0 0	3 5 0

§ Dividend pending * Ex-Dividend.

MEETINGS.

Name of Company.	Location	Meeting.	Date.	Place of Meeting.
April Fool	Montana	Special	Aug 21	McCornick Bldg, Salt Lake City.
Butte & Boston	Montana	Annual	Oct. 2.	Butte, Mont.
Camp Floyd	Utah	"	Sept. 4	417 McCornick Bldg., Salt Lake City, Utah.
CentennialEureka	Utah	"	Aug. 24.	Atlas Block, Salt Lake City, Utah.
Chrysolite	Colorado	"	Nov. 3.	80 Broadway, New York City.
Con. Cal & Va.	Nevada	"	Oct 21.	San Francisco. al
Con.G.Gate&Sulph	California	"	Sept.12.	San Francisco. Cal
Great Western, q	California	"	Nov. 6	330 California st., San Francisco, Cal.
Horn Silver	Utah	"	Oct 5.	Salt Lake City, Utah
Rockingham	Colorado	"	Aug. 31.	Arapahoe Bldg, Denver, Colo.
Siskiyou Con.	California	"	Nov. 4.	306 Pine st, San Francisco, Cal.

ASSESSMENTS.

Name of Company.	Location.	No.	Dlq.	Sale.	Amt.	Office.
Maxfield	Utah	...	May 24	Aug. 21	.09	Salt Lake City, Utah.
Great Eastern	Utah	2	July 22	Sept. 9	.00½	Walker Bank Bldg., Salt Lake City.
Mayday	Cal..	2	10	Aug. 28	.10	24 Post st., San Francisco, Cal.
			Aug.			
Alpha Con	Nev..	22	16	Sept. 7	.03	309 Montgomery st., San Francisco.
Belcher	Nev..	61	16	Sept. 6	.10	Mills Bldg., San Francisco, Cal.
Best & Belcher	Nev..	67	4	Aug. 25	.10	309 Montgomery st, San Francisco.
Bunker Hill	Utah	2	17	Sept. 6	.00½	McCorinck Block, Salt Lake City.
Cedar Valley	Utah	1	22	Sept. 8	.00½	Atlas Block, Salt Lake City.
Challenge Con	Nev..	27	22	Sept. 12	.10	Mills Bldg., San Francisco, Cal.
Chollar	Nev..	49	24	Sept. 14	.15	Mills Bldg., San Francisco, Cal.
Ely	Utah	2	22	Sept. 11	.01	150 Main st., Salt Lake City.
Geyser	Colo	..	24	Sept. 25	.10	31 Milk st., Boston, Mass.
Golden Chan. Gr.	Cal	...	1	.....	01½	.....
Himalaya	Utah	...	16	Sept. 2	.00½	.....
Homestake	Utah	...	30	Sept. 18	00½	163 South Main st., Salt Lake City.
Justice	Nev.	65	8	Aug. 29	.10	309 Montgomery st., San Francisco.
Marguerite	Cal..	14	28	Sept. 25	.10	237 12th st., San Francisco.
Old Bonanza	Cal..	1	1	Aug. 19	.02½	163 Crocker Bldg., San Francisco.
Ophir	Nev..	75	8	Aug. 28	.15	309 Montgomery st., San Francisco.
Palo Alto	W'sh	3	26	.....	.001	301-302 Rookery, Spokane, Wash.
Rose Creek	Cal	3	1	Aug. 19	.05	163 Crocker Bldg., Salt Lake City.
R. G. W	Utah	1	17	Oct 18	.01	34 W. 2d South st., Salt Lake City.
Sailor Con	Cal..	1	21	Sept. 18	11	318 Front st., San Francisco.
Sierra Nevada	Nev..	116	18	Sept. 7	.15	309 Montgomery st., San Francisco.
South Bingham	Utah	...	7	Sept. 20	.00¼	46½ W. 2d South st., Salt Lake City.
			Sept.			
Central Eureka	Cal..	13	1	Sept. 25	.03	320 Sansome st., San Francisco, Cal.
Excelsior	Cal..		11	.....	.05	.....
International	Utah	...	5	Sept. 25	.01	117 S. W. Temple st., Salt Lake City.
La Suerte	Cal	...	8	.....	.22	.....
Little Chief	Utah	1	9	Sept. 26	.01	161 South Main st., Salt Lake City.
Occidental Con	Nev..	33	5	Sept. 28	.05	309 Montgomery st., San Francisco.
Orleans	Cal..	9	8	Oct. 3	.05	324 Pine st., San Francisco.
Powning	Cal..	...	12	.....	.00¼	.....
Savage	Nev..	98	6	Sept. 26	.10	309 Montgomery st., San Francisco.
Union Con	Nev..	58	6	Sept. 25	.15	309 Montgomery st., San Francisco.
Utah Con	Nev..	31	7	Sept. 28	05	309 Montgomery st., San Francisco.

DIVIDENDS.

Name of Co.	Date.	Am't.	Paid 1899.	Grand Total.
Alamo, Utah	.....	.....	$2,500	$2,500
Alaska-Mexican	.....	.....	36,000	353,031
Alaska-Treadwell	.....	.....	150,000	4,070,000
Ætna Con	.....	.....	30,000	180,000
American Con	Sept.1	$75,000	150,000	727,500
American Gold	.....	.....	48,000	434,000
Am. Zinc-L. & Sm.	.....	.....	20,000	20,000
Anaconda Copper	.....	.....	1 590,000	9,750,000
Anchoria-Leland	.....	.....	36,000	198,000
Apollo Con., Alas	.....	.....	40,000	140,000
April Fool, Nev	Aug. 1	6,000	6,000	6,000
Argonaut, Cal	Aug26	20,000	160,000	340,000
Associated, Colo	.....	.....	12,000	67,000
Aurora Iron	.....	.....	50,000	800,000
Bald, Butte	.....	.....	75,000	724,648
Bonanza Dev	.....	.....	1,050,000	1,500,000
Boston-Aurora	Aug25	5,328	10,656	10,656
Boston-Duenweg, z	Aug25	4,000	16,000	16,000
Boston-Provid'nce	Aug15	3,750	8,250	8,250
Boston & Cal	.....	.....	72,000	72,000
Boston & Mont	Aug21	1,500,000	3,150,000	12,275,000
Breece	Sept.1	10,000	30,000	60,000
Bul. Bec. & Champ	Aug15	10,000	80,000	2,398,400
Bunker Hill & S	.....	.....	105,000	705,000
Calumet & Hecla	.....	.....	6,000,000	62,850,000
Cariboo-M'Kinney	.....	.....	75,000	3+1,965
Centenn'l Eureka	Aug15	15,000	120,000	2,150,000
Central Lead	Aug15	5,000	40,000	122,000
Charleston, S. C	.....	.....	20,000	200,000
Colorado Sm	.....	.....	100,000	1,945,000
Colonial Lead, Mo	Aug. 1	10,000	10,000	10,000
Consolidation Coal	.....	.....	205,000	5,716,650
D'rTr'l No 2 Wash	Aug15	2,500	20,000	37,500
Doe Run, Mo	Aug15	2,500	20,000	80,000
De Lamar, Idaho	.....	.....	48,000	2,346,000
El Dorado, Cal	.....	.....	10,000	10,000
Empire State, Ida	Aug15	19 703	142,845	204 747
Fanny Rawlings	Aug15	10,000	20,000	20,000
Ferris-H'g'ty, Wyo	.....	.....	5,000	5,000
Garfield Con	.....	.....	12,000	34,000
Gold Coin, Vict	Aug25	10,000	80,000	230,000
Golden Cycle	Aug18	10,000	65,000	218,500
Golden Eagle, Col	.....	.....	5,000	5,000
Gold King, Col	.....	.....	.....	.....
Golden M. & Ex	.....	.....	10,000	10,000
Golden Star, Ont	.....	.....	41,000	41,000
Grand Central, Ut	Aug10	$37,500	287,500	606,250
Grass Valley Ex	.....	.....	22,500	22,500
Gwin, Cal	Aug 8	5,000	30,000	81,500
Helena & Frisco	.....	.....	125,000	550,000
Hidden Treas., Cal	.....	.....	3,600	3,600
High Five, Colo	.....	.....	10,000	10,000
Holy Terror	.....	.....	25,000	142,000
Homestake	Aug25	105,000	542,500	7,723,750
Horn Silver	.....	.....	40,000	5,270,000
Idaho. B. C	.....	.....	28,000	292,000
Isabella	.....	.....	180,000	450,000
Jack Pot	.....	.....	25,000	25,000
Jamison, Cal	.....	.....	11,700	50,700
Ky. L. C. & Mfg	.....	.....	10,980	164 041
Lake Superior Ir	.....	.....	84,000	227,860
Last Chance, B. C	.....	.....	20,000	45,000
Lillie	Aug. 1	11,250	90,000	256,610
Mammoth	Aug. 1	40,000	120,000	1,470,000
Mead, Cal	.....	.....	40,000	120,000
Mercur	.....	.....	50,000	1,291,000
Mo. Zinc Fields	Aug25	2,664	7,992	7,992
Modoc	Aug25	10,000	80,000	160,000
Montana, Ltd	.....	.....	98,855	453,700
Mont. Ore Pur	.....	.....	400,000	1,200,000
Morning Star, Cal	Aug15	4,800	49,200	737,400
Moulton, Mont	.....	.....	20,000	480,000
Mt. Shasta, Cal	.....	.....	6,000	6,000
Napa Con	.....	.....	60,000	1,010,000
New Central Coal	.....	.....	20,000	470,000
New Idria	.....	.....	60,000	140,000
N.Y.& H.-Rosario	Aug19	15,000	105,000	1,095,000
North Star, Cal	.....	.....	50,000	550,000
Olive	.....	.....	12,000	12,000
Orig. Empire, Cal	.....	.....	50,000	500,000
Osceola	.....	.....	279,000	2,801,500
Parrot	.....	.....	552,000	2,690,898
Pennsylvania Cal	Aug. 8	10,300	36,050	95,275
PennsylvaniaCoal	.....	.....	800,000	14,050,000
Petro, Utah	.....	.....	5,000	5,000
Pioneer, Cal	.....	.....	12,500	62,500
Portland	Aug15	$60,000	$480,000	$2,317,080
Queen Bess, B. Col	.....	.....	12,150	12,150
Quicksilver (Pref.)	.....	.....	21,500	1,845,411
Quincy	Aug15	600,000	950,000	11,070,000
Rambler Cariboo	.....	.....	10,000	50,000
Republic, Wash	Aug15	31,500	125,000	291,500
Royal B. C	.....	.....	50,000	1,050,000
Sacramento	Aug. 8	5,000	40,000	128,000
St. Joseph Lead	.....	.....	75,000	2,859,500
Silver King	Aug10	50,000	375,000	2,200,000
Small Hopes	.....	.....	25,000	3,325,000
Smuggler	Aug15	10,000	80,000	1,175,000
South Swansea	.....	.....	30,000	142,500
Standard, Cal	Aug21	20,000	40,000	3,879,226
Standard, Ida	.....	.....	30,000	1,745,000
Strong	Aug25	25,000	200,000	725,000
Swansea	Aug10	5 000	40,000	231,000
Tamarack	.....	.....	240,000	5,910,000
Tomboy	.....	.....	80,000	730,000
United Z.&L., pfd	.....	.....	20,000	20,000
Utah, Utah	.....	.....	2,000	179,000
Vindicator	.....	.....	126 875	253,750
War Eagle, B. C.	Aug15	26,250	210,000	387,750
Weatherly Bonanza, Wash	Aug. 1	1,562	1,562	1,562
Wolverine	Oct. 2	120,000	210,000	270,000
Yellow Aster	.....	.....	65,000	233,789
Grand Total	.....	.....	$3,151,607	$20,772,215	196,990,753

DIVIDEND-PAYING MINES.

	Name and Location of Company.		Capital Stock.	Shares. No.	Shares. Par Val	Assessments. Total Levied.	Assessments. Date and Amount of Last.			Dividends. Total Paid.	Dividends. Date and Amount of Last.		
1	Ætna Cons., q	Cal	$500,000	100,000	$5	*				$180,000	July	1899	.10
2	Alaska-Mexican, g	Alask	1,000,000	200,000	5					353,031	April	1899	.10
3	Alaska-Treadwell, g	Alask	5,000,000	200,000	25	*				4,070,000	April	1899	.37½
4	Alamo, g. c. i	Utah	125,000	125,000	1	$937	Mar.	1898	.00¼	2,500	April	1899	.02
5	Alice, g. s	Mont.	10,000,000	400,000	25	*				1,075,000	April	1898	.05
6	American Coal	Md	1,500,000	60,000	25					652,500	Mar.	1899	1.25
7	American Gold, g. s. c. l	Colo.	3,000,000	300,000	10	*				407,000	Mar.	1899	.07
8	Am. Zinc, Lead & Sm	Mo	500,000	200,000	25					20,000	July	1899	.10
9	Anaconda Copper	Mont.	30,000,000	1,200,000	25					9,750,000	May	1899	1.25
10	Anchoria-Leland, g	Colo.	600,000	600,000	1	*				198,000	April	1899	.03
11	Appie Ellen, g	Colo.	600,000	600,000	1					25,000	Aug.	1898	.01
12	Argonaut	Cal	2,000,000	200,000	10					300,000	June	1899	.10
13	Associated, g	Colo.	1,250,000	1,250,000	1	*				72,000	Dec.	1898	.01
14	Atlantic, c	Mich.	1,000,000	40,000	25					780,000	Feb.	1898	1.00
15	Aurora, i	Mich.	2,500,000	100,000	25	*				890,000	June	1899	.50
16	Bald Butte	Mont.	250,000	250,000	1	*				702,148	May	1899	.06
17	Big Six, g. s	Colo.	500,000	500,000	1					15,000	May	1898	.00½
18	Bonanza, Dev	NMex	3,000,000	300,000	10					1,500,000	June	1899	3.50
19	Boston & California	Cal	600,000	600,000	1					36,000	Mar.	1899	.06
20	Boston & Mont. Con	Mont.	3,750,000	150,000	25	*				10,775,000	May	1899	6.00
21	Breece, i	Colo.	3,500,000	700,000	5					50,000	June	1899	.05
22	Bullion-Beck & Champ	Utah	1,000,000	100,000	10	*				2,378,400	June	1899	.10
23	Bunker Hill & S., s. l	Idaho	3,000,000	300,000	10					705,000	May	1899	.07
24	Calumet & Hecla, c	Mich.	2,500,000	100,000	25					62,850,000	June	1899	20.00
25	Cariboo, g	B. C.	800,000	800,000	1					248,965	Feb	1899	.01½
26	Centen'l-Eureka, g.s.l.c	Utah	1,500,000	300,000	50	30,000	Mar.	1889	1.00	2,120,000	June	1899	.50
27	Central Lead, l	Mo	1,000,000	10,000	100	*				112,000	June	1899	.50
28	Champion, g. s	Cal	340,000	34,000	10					296,200	April	1898	.25
29	Charleston, p. r	S. C.	1,000,000	10,000	100	*				200,000	June	1899	2.00
30	Consolidation Coal	Md	10,250,000	102,500	100					5,716,650	Feb	1899	2.00
31	Con. Tiger & Poorman	Idaho	1,000,000	1,000,000	1	*				20,000	Dec.	1898	.02
32	Cœsus, g	Cal	1,000,000	200,000	5					30,000	Dec	1898	.15
33	Crowned King, g. s. l	Ariz	6,000,000	600,000	10	*				232,000	Dec	1898	.02
34	Deadwood-Terra, g	S. D.	5,000,000	200,000	25	*				1,350,000	May	1898	.15
35	De Lamar, g. s	Idaho	2,000,000	400,000	5					2,346,000	May	1899	.12
36	Deer Trail No. 2	Wash	1,000,000	1,000,000	1					32,500	June	1899	.00¼
37	Doe Run, l	Mo	500,000	5,000	100					75,000	June	1899	.50
38	Elkton Cons., g	Colo.	1,250,000	1,250,000	1					656,961	Nov	1898	.01½
39	El Paso, g. s	Colo.	650,000	650,000	1					12,393	Jan	1898	.01
40	Empire State-Idaho	Idaho	1,000,000	100,000	10					185,638	July	1899	.20
41	Enterprise, s. l	Colo.	500,000	500,000	1					900,000	Sept.	1898	.05
42	Fanny Rawlings, g. s	Colo.	1,000,000	1,000,000	1					10,000	May	1899	.01
43	Ferris-Haggarty, c.g.s	Wyo.	1,000,000	1,000,000	1					5,000	Mar.	1899	.00½
44	Garfield Con., g	Colo.	1,200,000	1,200,000	1					34,000	May	1899	.01
45	Geyser-Marion, g	Utah	1,500,000	300,000	5					96,000	Sept.	1898	.02
46	Gold Coin of Victor, g	Colo.	1,000,000	1,000,000	1					210,000	June	1899	.01
47	Golden Cycle, g	Colo.	1,000,000	200,000	5					198,500	June	1899	.05
48	Gold King, g	Colo.	1,000,000	1,000,000	1					30,000	May	1899	.02
49	Golden Reward, g	S. D.	1,000,000	100,000	10					155,000	Feb	1898	.15
50	Golden Star, c	Ont.	100,000	100,000	1					41,000	July	1899	.01
51	Grand Central, g	Utah	250,000	250,000	1					531,250	June	1899	.15
52	Grass Valley Expl	Cal	100,000	30,000	2	*				22,500	July	1899	.25
53	Gwin, g	Cal	1,000,000	20,000	50	286,000	Jan	1898		71,500	June	1899	.25
54	Hall Mines, Ltd	B. C.	1,250,000	250,000	5					160,000	May	1898	.25
55	Helena & Frisco, l. s	Idaho	2,500,000	500,000	5	*				550,000	June	1899	.25
56	Highland, g	S. D.	10,000,000	100,000	100	304,000				3,924,718	July	1899	.20
57	Holy Terror, g	S. D.	500,000	500,000	1					122,000	Mar.	1899	.01
58	Homestake, g	S. D.	12,500,000	125,000	100	200,000	July	1878	1.00	7,556,250	June	1899	.50
59	Hope of St. Louis, s	Mont.	1,000,000	100,000	10	*				762,252	Mar.	1898	.10
60	Horn-Silver, g. s. c. sp. l	Utah	10,000,000	400,000	25	*				5,279,000	July	1899	.05
61	Idaho	B. C.	500,000	500,000	1					292,000	Jan	1899	.05
62	Iowa, g	Colo.	1,000,000	1,000,000	1					95,000	June	1898	.00½
63	Iron Mountain, g. s. l. i	Mont.	5,000,000	500,000	10	*				507,500	April	1898	.02
64	Isabella, g	Colo.	2,250,000	2,250,000	1					448,500	June	1899	.02
65	Jack Pot, g	Colo.	1,250,000	1,250,000	1					25,000	Mar.	1899	.02½
66	Jamison	Cal	3,900,000	390,000	10	144,000	Nov.	1896	.17	50,700	April	1899	.10
67	Jersey Leasing	Colo.	200,000	158,167	1					137,875	Oct	1898	.03½
68	Lake Superior Iron	Mich.	2,100,000	84,000	25					736,000	Feb	1899	1.00
69	Last Chance, s. l	B. C.	500,000	500,000	1					45,000	April	1899	.05
70	Le Roi	B. C.	5,000,000	200,000	25					825,000	April	1898	.10
71	Lillie, g	Colo.	1,250,000	250,000	5					235,360	July	1899	.05
72	Mammoth, g. s. c	Utah	10,000,000	400,000	25	*				1,430,000	July	1899	.20
73	Matoa, g	Colo.	1,000,000	1,000,000	1					25,000	Dec	1898	.02½
74	Mead, g	Cal	200,000	200,000	1					120,000	June	1899	.20
75	Mercur, g	Utah	5,000,000	200,000	25	*				1,266,000	Jan	1899	12½
76	Minnesota Iron, i	Minn.	16,500,000	165,000	100	*				4,735,000	Oct	1898	1.50
77	Modoc, g	Colo.	500,000	500,000	1					140,000	June	1899	.02
78	Montana, Ltd., g. s	Mont.	3,300,000	657,128	5	*				453,700	April	1899	.12
79	Montana Ore Purchas'g	Mont.	2,500,000	80,000	25	*				1,200,000	July	1899	1.00
80	Moon-Anchor Con., g	Colo.	1,750,000	600,000	1					261,000	Nov.	1898	.07½
81	Morning Star, g	Cal	240,000	2,400	100	70,800	Feb	1887	.75	732,600	June	1899	2.50
82	Monument	Colo.	300,000	300,000	1					12,624	Dec	1898	.01
83	Mt. Rosa, g	Colo.	1,000,000	1,000,000	1					60,000	Jan	1898	.02
84	Mt. Shasta	Cal	100,000	20,000	5					6,000	May	1899	.30
85	Moulton	Mont.	2,000,000	400,000	5					480,000	Feb	1899	.05
86	Mountain Copper	Cal	6,250,000	250,000	25					93,750	Sept.	1898	.62½
87	Napa Cons., q	Cal	700,000	100,000	7	*				1,010,000	July	1899	.20
88	New Central Coal	Md	1,000,000	50,000	20					470,000	April	1899	.40
89	New Idria, q	Cal	500,000	100,000	5					140,000	July	1899	.20
90	N.Y.&Hon Rosario, s.g	C. A.	1,500,000	150,000	10	*				1,065,000	June	1899	.10
91	North Star, g	Cal	5,000,000	500,000	10	20,000	June	1885	.02	550,000	April	1899	.25
92	Nugget	Colo.	1,000,000	1,000,000	1					20,000	Aug.	1898	.00½
93	Orphan Bell, g	Colo.	1,000,000	1,000,000	1					115,000	Mar.	1898	.01
94	Original Empire, g	Cal	5,000,000	50,000	100	975,000	Aug.	1896	1.25	500,000	May	1899	1.00
95	Osceola, c	Mich.	2,500,000	93,000	25	*				2,801,500	June	1899	3.00
96	Parrot, c	Mont.	2,300,000	230,000	10	*				2,690,898	May	1899	1.50
97	Pennsylvania Coal	Pa	5,000,000	190,000	50					14,050,000	May	1899	8.00
98	Pennsylvania Cons	Cal	5,150,000	51,500	100	50,051	Feb	1892	.05	84,975	July	1899	.20
99	Pioneer	Cal	1,000,000	100,000	10					62,500	Mar.	1899	.12½
100	Portland, g	Colo.	3,000,000	3,000,000	1	*				2,197,080	June	1899	.02
101	Queen Bess, Prop. s. l	B. C.	500,000	100,000	5					12,150	April	1899	.12½
102	Quicksilver, pref	Cal	4,300,000	43,000	100					1,845,411	May	1899	.50
103	Quicksilver, com	Cal	5,700,000	57,000	100					643,867	July	1882	.40
104	Quincy, c	Mich.	2,500,000	100,000	25	*				11,070,000	Aug	1899	6.00
105	Rambler-Cariboo	B. C.	1,000,000	1,000,000	1	*				50,000	April	1899	3.01
106	Raven, g	Colo.	1,500,000	1,500,000	1					19,500	Mar.	1898	.01
107	Republic Cons., g	Wash	3,500,000	3,150,000	1					183,000	June	1899	.01
108	Royal Con., g	B. C.	2,500,000	2,500,000	1					1,050,000	June	1899	.01
109	Sacramento, g	Utah	5,000,000	1,000,000	5					92,500	July	1899	.00½
110	St. Joseph, l	Mo	3,000,000	300,000	10	*				2,859,500	June	1899	.50
111	Santa Rosalia, g. s	Cal	100,000	100,000	1					125,000	Feb	1898	1.10
112	Silver King, g. s. l	Utah	3,000,000	150,000	20	3,000	Jan	1897	.02	2,625,000	June	1899	.25
113	Small Hopes, s	Colo.	5,000,000	250,000	20	*				3,325,000	Feb	1898	.10
114	Smuggler, s. l. z	Colo.	1,000,000	1,000,000	1					1,155,000	June	1899	.01
115	South Swansea, s. l	Utah	150,000	150,000	1					126,560	June	1899	.05
116	Standard Cons., g. s	Cal	2,000,000	200,000	10	99,888	June	1890	.50	3,859,226	May	1899	.10
117	Standard	Idaho	500,000	500,000	1					1,745,000	April	1899	.06
118	Swansea, s. l	Utah	500,000	100,000	5					166,500	June	1899	.05
119	Tamarack, c	Mich.	1,500,000	60,000	25					5,910,000	June	1899	4.00
120	Tomboy, g	Colo.	2,000,000	200,000	10					730,000	May	1899	4.00
121	Utah	Utah	1,000,000	100,000	10	*				179,000	Jan	1899	.02
122	Victor, g	Colo.	1,000,000	200,000	5	*				1,155,000	Dec	1898	.50
123	Vindicator, Cons. g	Colo.	1,500,000	1,015,000	1					253,750	July	1899	.05
124	War Eagle, Cons	B. C.	2,000,000	1,750,000	1					335,250	June	1899	.01½
125	Whitewater	B. C.	625,000	125,000	5					194,000	April	1898	.32
126	Wolverine, c	Mich.	1,500,000	60,000	25	180,000	Mar.	1895	1.00	150,000	April	1899	1.50
127	Yellow Aster, g	Cal	1,000,000	100,000	10	*				203,789	May	1899	.10

NON-DIVIDEND-PAYING MINES.

	Name and Location of Company.		Capital Stock.	Shares. No.	Shares. Par Val	Assessments. Total Levied.	Assessments. Date and Amount of Last.		
1	Ada Cons., s. l	Utah	$100,000	100,000	$1	$3,333	Nov.	1895	.01½
2	Alliance, g. s. l	Utah	150,000	150,000	1	200,000	Dec.	1895	.10
3	Allouez, c	Mich.	2,500,000	100,000	25	1,520,937	June	1894	1.00
4	Alpha Cons., g. s	Nev.	105,000	105,000	1	316,050	Nov.	1898	.03
5	Alta, s	Nev.	216,000	108,000	2	3,675,710	June	1899	.05
6	Alta	Utah	750,000	750,000	1	938	Mar.	1899	.00½
7	American Quartz, g	Cal	1,000,000	100,000	10	1,000	Feb.	1897	.01
8	Anchor, g. s. l	Utah	1,500,000	150,000	10	560,000	Aug.	1893	.20
9	Andes, g	Nev.	300,000	100,000	3	1,205,000	June	1899	.05
10	Arnold, c	Mich.	1,500,000	60,000	25	180,000	Jan.	1899	3.00
11	Baliol, g	Cal	1,000,000	100,000	10	55,000	Mar.	1898	.30
12	Belcher, s. g	Nev.	312,000	104,000	3	3,525,200	Mar.	1899	.10
13	Belle Isle	Nev.	10,000,000	100,000	100	240,271	July	1896	.10
14	Benton Con. s	Nev.	10,800,000	108,000	100	587,023	June	1897	.25
15	Best & Belcher, g. s	Nev.	302,400	100,800	3	2,609,803	Aug.	1899	.10
16	Bogan	Utah	1,250,000	125,000	10	26,875	Dec.	1897	.01½
17	Boston & Cp. Ck., g	Colo.	400,000	200,000	2	20,000	Aug.	1898	.10
18	Brunswick Cons., g	Cal	500,000	500,000	1	160,000	July	1897	.03
19	Bullion, s. g	Nev.	100,000	100,000	1	3,125,000	May	1899	.05
20	Caledonia	Nev.	300,000	200,000	3	3,210,000	Nov.	1897	.10
21	Centennial, c	Mich.	2,500,000	100,000	25	460,000	Mar.	1898	3.00
22	Central Eureka, g	Cal	4,000,000	400,000	10	123,942	July	1899	.02
23	Challenge Cons, s.g	Nev.	150,000	50,000	3	430,000	Mar.	1899	.05
24	Chollar, g. s	Nev.	336,000	112,000	3	2,059,800	Jan.	1899	.10
25	Confidence, g. s	Nev.	74,880	24,960	3	545,118	May	1899	.20
26	Con., Cal. & Va	Nev.	540,000	216,000	2½	734,000	May	1899	.25
27	Cons. Imperial, g. s	Nev.	500,000	500,000	1	2,251,000	July	1899	.01
28	Con. New York	Nev.	100,000	100,000	1	160,500	Nov.	1898	.03
29	Crown Point, g. s	Nev.	300,000	100,000	3	2,980,000	May	1899	.10
30	Dalton, s. l	Utah	2,500,000	500,000	5	58,750	April	1899	.01
31	Dexter	Nev.	1,000,000	200,000	5	38,000	Apr.	1898	.15
32	Diamond Con	Utah	1,000,000	200,000	5	8,000	Mar.	1899	.04
33	Eagle, g. s	Cal	500,000	100,000	5	5,000	Dec.	1896	.05
34	Eagle, g. s	Ore	1,000,000	100,000	10	6,000	Oct.	1898	.01½
35	Emerald	Utah	300,000	300,000	1	3,000	Oct.	1898	.00½
36	Eureka Cons., g. s. l	Nev.	1,000,000	50,000	20	585,000	Sept.	1898	.20
37	Eureka Con. Drift, g	Cal	500,000	500,000	1	180,000	July	1899	.00½
38	Exchequer, g. s	Nev.	1,000,000	100,000	1	1,020,000	Dec.	1897	.05
39	Florence	Utah	1,000,000	200,000	5	1,000	June	1899	.00¼
40	Four Aces	Utah	250,000	250,000	1	5,000	Mar.	1898	.01
41	Galena	Utah	1,000,000	100,000	10	10,000	Oct.	1898	.10
42	Geyser, s. l	Colo.	5,000,000	500,000	10	1,175,000	May	1899	.10
43	Gold Belt, g. s	Utah	500,000	500,000	1	3,012	July	1896	.00½
44	Gold Coin	Colo.	1,000,000	200,000	5	10,000	Mar.	1899	.05
45	Golden Eagle, g	Nev.	400,000	400,000	1	4,000	April	1899	.01
46	Golden Fleece Grav. g	Cal	130,000	130	1000	56,200	Mar.	1897	2.00
47	Gold & Silver Carb	Utah	500,000	500,000	1	2,500	Mar.	1899	.00½
48	Gould & Curry	Nev.	324,000	108,000	3	4,625,150	July	1899	.10
49	Granite Hill, g. s	Cal	500,000	100,000	5	124,000	June	1899	.03
50	Great Eastern, g	Utah	1,500,000	300,000	5	5,000	Oct.	1898	.00½
51	Great Western, q	Utah	5,000,000	50,000	100	75,520	May	1899	.15
52	Hale & Norcross, g.s	Nev.	11,200,000	112,000	100	5,716,280	May	1899	.10
53	Head Center Con., s.g	Ariz.	5,000,000	200,000	25	25,125	Mar.	1899	.20
54	Horse Shoe Bar Cons	Cal	6,000,000	60,000	100	85,800	Jan.	1899	.05
55	Joe Bowers, Ext.gcis	Utah	112,000	450,000	¼	9,000	July	1899	.01
56	Julia Con	Nev.	110,000	110,000	¼	1,498,800	Jan.	1899	.03
57	Jupiter, g	Cal	2,000,000	20,000	100	80,000	Feb.	1898	.20
58	Justice, g. s. c	Nev.	210,000	105,000	2	3,662,500	Aug.	1899	.10
59	Kentuck	Utah	600,000	300,000	2	30,000	Aug.	1898	.10
60	Kentuck Cons., s	Nev.	105,000	105,000	1	125,300	June	1898	.05
61	Lacrosse, g	Colo.	1,000,000	100,000	10	*			
62	Little Pittsburg	Utah	2,000,000	400,000	5	21,000	June	1899	.00¾
63	Lower Mammoth	Utah	150,000	150,000	1	15,000	Oct.	1898	.05
64	Lucky Bill	Utah	300,000	120,000	2.50	56,400	June	1898	.01½
65	Marguerite, g	Cal	500,000	50,000	10	80,000	June	1899	.10
66	Marina Marsicano, g	Cal	1,000,000	100,000	10	49,360	June	1899	.05
67	May Day	Utah	100,000	400,000	¼	4,000	Jan.	1899	.00½
68	Mayday, g. s	Cal	50,000	50,000	1	10,000	July	1899	.10
69	Mayflower, g	Cal	1,200,000	60,000	20	6,000	Sept.	1898	.05
70	Merced, g	Cal	1,500,000	100,000	15	200,000	July	1896	2.00
71	Meteor, s. l	Utah	600,000	300,000	2	6,734	Feb.	1899	.01
72	Mexican, g. s	Nev.	302,400	100,800	3	2,268,800	June	1899	.10
73	Montreal	Utah	2,500,000	250,000	10	30,625	April	1899	.05
74	Mt. Diablo s	Nev.	5,000,000	50,000	100	150,000	Dec.	1898	.10
75	Morning Star, s	Nev.	1,500,000	150,000	10	32,500	Dec.	1898	.00½
76	Nashville, g	Cal	115,000	11,500	10	2,000	Sept.	1898	.12
77	North Banner, g. s	Cal	1,000,000	100,000	10	21,794	Oct.	1896	.02
78	North Belle Isle, s	Nev.	10,000,000	100,000	100	523,074	July	1896	.10
79	No. Gould & Curry	Nev.	100,000	100,000	1	375,000	Dec.	1898	.10
80	Northern Light, g	Utah	2,000,000	400,000	5	80,080	July	1898	.10
81	Occidental Cons g s	Nev.	300,000	100,000	3	509,179	April	1899	.10
82	Ophir, g. s	Nev.	324,000	108,000	3	4,635,968	Aug.	1899	.15
83	Opohonga	Utah	200,000	100,000	2	1,500	June	1898	.01
84	Oro Cache, g. s	S. D.	1,250,000	250,000	5	6,250	July	1893	.00½
85	Osceola, g	Cal	10,000,000	100,000	100	10,924	Sept.	1898	.01
86	Overman, g. s	Nev.	230,400	115,200	2	4,135,450	Mar.	1899	.05
87	Peer, s	Ariz.	10,000,000	100,000	100	215,000	July	1894	.05
88	Peerless, s	Nev.	10,000,000	100,000	100	410,000	July	1894	.05
89	Pine Hill, g	Cal	1,000,000	100,000	10	30,000	July	1897	.05
90	Potosi, g. s	Nev.	336,000	112,000	3	2,168,400	May	1899	.10
91	Red Mountain, s	Colo.	300,000	60,000	5	22,500	Mar.	1891	.12½
92	Rescue, g	Nev.	100,000	10,000	10	5,500	Feb.	1899	.05
93	Reward, g	Cal	64,000	64,000	1	63,680	Nov.	1898	.02
94	Ridge, c	Mich.	500,000	20,000	25	239,939	Feb.	1897	1.00
95	St. Mary, c	Mich.	1,000,000	40,000	25	4,000	July	1895	.05
96	Savage, g. s	Nev.	280,000	112,000	2½	7,309,800	Feb.	1899	.10
97	Scorpion, s	Nev.	100,000	100,000	1	445,000	Dec.	1897	.05
98	Seg. Belcher & Mg s	Nev.	300,000	100,000	2	373,000	June	1899	.05
99	Sevier, g. s	Utah	1,250,000	250,000	5	50,000	April	1897	.04
100	Shower Con	Utah	2,000,000	400,000	5	8,000	Aug.	1899	.02
101	Sierra-Nevada, g. s	Nev.	300,000	100,000	3	6,706,910	Feb.	1898	.20
102	Silver Hill, s	Nev.	108,000	108,000	1	2,220,200	May	1898	.05
103	Silver King, s	Ariz.	10,000,000	100,000	100	490,000	July	1899	.25
104	Silver Queen, c	Ariz.	5,000,000	200,000	25	*			
105	Silver State, g	Colo.	700,000	700,000	1	*			
106	Silver State, s. g. l	Utah	100,000	100,000	1	1,000	Sept.	1897	.00½
107	Siskiyou Con., s	Cal	2,000,000	200,000	10	46,000	April	1898	.01
108	Snow Flake	Utah	500,000	100,000	5	51,000	July	1899	.02
109	South Fork Con	Utah	50,000	50,000	1	5,000	Mar.	1898	.01
110	South Side	Mich.	1,000,000	40,000	25	4,000	Jan.	1899	.10
111	Star, g. s	Utah	1,000,000	200,000	5	7,000	Feb.	1899	.03
112	Success	Utah	30,000	300,000	0.10	6,750	July	1899	.01
113	Sunbeam Cons	Utah	250,000	250,000	1	33,125	June	1899	.02
114	Tecumseh, c	Mich.	1,000,000	40,000	25	40,000	July	1897	1.06
115	Temonj, g	Colo.	1,000,000	1,000,000	1				
116	Tetro	Utah	300,000	300,000	1	27,000	July	1899	.01
117	Triumph	Utah	1,000,000	100,000	10	1,000	April	1899	.01
118	Union Cons., g. s	Nev.	250,000	100,000	2½	2,633,000	Jan.	1899	.03
119	Utah Cons., s	Nev.	100,000	100,000	1	480,000	May	1899	.05
120	Valeo	Utah	200,000	200,000	1	10,000	May	1899	.05
121	Victory, g. s	S. D.	1,250,000	250,000	5	2,625	Nov.	1899	.00½
122	Watt Blue Gravel, g	Cal	1,100,000	100,000	15	58,000	May	1899	.03
123	Work, g	Colo.	1,250,000	1,250,000	1				
124	World, g	Colo.	1,500,000	1,500,000	1	*			
125	Yankee Girl	Utah	250,000	250,000	1	5,000	April	1899	.02
126	Yellow Jacket, g. s	Nev.	360,000	120,000	3	5,305,000	April	1899	.15
127	Yellow Jacket	Utah	300,000	300,000	1	1,500	Dec.	1897	.00½

G., Gold. S., Silver. L., Lead. C., Copper. B., Borax. * Non-assessable. This table is corrected up to July 10. Correspondents are requested to forward changes or additions.

CHEMICALS, MINERALS, RARE ELEMENTS, ETC.—CURRENT PRICES.

Abrasives—	Cust. Meas.	Price.
Carborundum, f.o.b.		
Niagara Falls grains..	lb.	$0.10
Powd., F. FF. FFF..	"	.08
Minute No. 1.....	"	.15
No. 15.....	"	1.00
Corundum, N. C.....	"	.07@.10
Chester.....	"	.04½@.05
Emery, Turkish flour...	"	.03
Grains.....	"	.05
Naxos flour.....	"	.03
Grains.....	"	.05
Chester flour.....	"	.03
Grains.....	"	.05
Peekskill flour.....	"	.01¾
Grains.....	"	.02½
Crude, Kuluk, best...lg. ton		18.50
Levant, "		22.00
Naxos (Greek) best "		32.00
Pumice Stone, Am. powd.	lb.	.01½@.02
Italian, powdered....	"	.01½
Lump, per quality....	"	.04@.40
Rottenstone, ground....	"	.02½@.03
Lump, per quality....	"	.05@.14
Rouge.....	"	.17@.30
Tripoli, prepared.....sh. ton.		20.00
Acids—Acetic, 30% pure.	lb.	.02¾
30% ch. pure.....	"	.06½
80% pure.....	"	.09
Benzoic, English.....	oz.	.09@.09½
German.....	lb.	.46@.47
Boracic, pure cryst....	"	.11¼
Powdered.....	"	.11½@.11¾
Carbolic, cryst. in drums	"	.14½@.15½
Carbonic, liquid.....	"	.15
Chromic, crude.....	"	.23
Chem. pure.....	"	.50
Absol. ch. pure.....	"	1.75
Hydrochloric, ch. pure.	"	.08
Hydrofluoric, 30%.....	"	.03@.04½
48%.....	"	.05@.06
Best.....	"	.25
Nitric, chem. pure....	"	.10
Sulphuric, 98%.....	"	.02
Chem. pure.....	"	.07
Tartaric, cryst.....	"	.32
Powder.....	"	.32½
Alcohol—Grain.....	gal.	2.42@2.44
Refined wood, 95@97%	"	.75@.80
Purified.....	"	1.20@1.50
Alum—Lump.....100 lbs.		1.65
Powdered.....	"	2.50
Ground.....	"	1.75
Chrome, com'l.....	"	3.50
Aluminum—		
Nitrate.....	lb.	1.50
Oxide, com'l, common..	"	.06½
Best.....	"	.20
Pure.....	"	.80
Hydrated.....	"	.05
Sulphate, pure..	"	.02
Com'l.....	"	1.25
Ammonia—Aqua, 16°..	"	.04
18°.....	"	.04½@.05½
20°.....	"	.05@.06
26°.....	"	.07@.08
Ammonium—Bromide, p'r"		.52@.53
Carbonate lumps.....	"	.07¼@.07½
Powdered.....	"	.08¼@.08½
Muriate, gran., white...	"	.06
Lump.....	"	.08½
Gray.....	"	.05¾
Nitrate, white, pure (99%)	"	.10½
Phosphate, com'l.....	"	..2@.15
Chem. pure.....	"	.60
Antimony—Glass.....	"	.30@.40
Needle, lump.....	"	05½@.06
Powdered, ordinary..	"	.05¼
Best.....	"	.08½
Oxide, com'l white, 95%.	"	.30
Com'l white, 99%.....	"	.35
Com'l gray.....	"	.07@.08
Sulphuret, com'l.....	"	.16
Arsenic—White.....	"	.04½@.04¾
Red.....	"	.07¾@.08½
Asphaltum—		
Ventura, Cal.....sh. ton		32.00
Cuban, refined..... lb.		.04½
Common.....	"	.02
Egyptian, refined.....	"	.06½
Trinidad, refined.....	"	.01½
San Valentino .....lg. ton		16.00
Gilsonite, Utah, ordinary	lb.	.03¼
Select.....	"	.03¾
Barium—Carbonate,		
Lump, 80@90% ....sh. ton		25.00@27.50
92@98%..... "		25.25@29.00
Powdered, 80@90%... lb.		.01¾@02
Chloride, com'l.....	"	.02¼
Chem. pure cryst	"	.05
Nitrate, powdered.....	"	.07
Oxide, com'l, hyd.cryst	"	.18@.22
Hydrated, pure cryst.	"	.25
Pure, powd.....	"	.27
Sulphate.....	"	.01@.03¾
Barytes—Crude, No. 1..sh. ton		9.00@10.00
No. 2.....	"	8.00@8.25
No. 3.....	"	7.75@8.00
Prime White.....	"	18.00@20.00
Floated.....	"	19.00@20.00
Bauxite—Georgia, f.o.b.		
cars, first grade.....lg. ton		5.10
Second grade..... "		4.35
Alabama, f. o. b. [illegible]		
Rock Run "		3.85
Benzole—[illegible]..... gal.		1.00@1.10
Bismuth—Oxide, hydr.. lb		2.25@2.56
Subnitrate cryst..... oz.		.09@.10
Bitumen, "B"..... lb.		.03½
"A" ..... "		.05
Bone Ash..... "		.02¾@.03½
Borax—Cryst. and pow'd "		.07¼
Calcined..... "		.20
Bromine—Bulk..... "		.45
Cadmium—Metallic..... "		1.90@2.00
Sulphide..... "		1.90@2.25
Sulphate..... "		2.00@2.50

Calcium—	Cust. Meas.	Price.
Carbide, in ton lots, f. o.		
b. Niagara Falls, N.Y.	lb.	.03@.04
Acetate, pure white.....100 lbs.		1.00
Gray..... "		1.25@1.30
Brown..... "		.80@.85
Carbonate, ppt.....	lb.	.05
Chloride.....100 lbs.		.90@1.00
Sulphite.....	lb.	.05
Cement—		
Portland, Am., 400 lbs..	bbl.	1.50@2.00
Foreign.....	"	1.75@2.50
"Rosendale," 300 lbs...	"	.90
Sand cement, 400 lbs...	"	1.55@1.95
Slag cement, imported.	"	1.65
Ceresine—		
Orange and Yellow.....	lb.	.10½@.11½
White.....	"	.11@.13½
Chalk—Lump, bulk.....sh. ton		2.15@2.25
Precipitated.....	lb.	.04@.04½
French.....100 lbs.		.30@.35
Chlorine—Liquid.....	lb.	.30
Water.....	"	.15
Chrome Ore—		
(50% chrome) ex ship....lg. ton		22.00
Sand.....	"	35.00
Clay, China—Am. com.,		
ex-dock, N. Y.....sh. ton		7.50
Am. best, ex-dock, N. Y.	"	8.50
English, common.....lg. ton		11.00
Best grade.....	"	17.00
Fire, ground, f.o.b. Jersey City, N. J.... ...sh. ton		4.00@5.00
Slip Clay.....	"	6.00
Cobalt—Carbonate.....	lb.	1.50
Nitrate	"	1.30
Oxide—Black.....	"	1.76
Gray.....	"	2.25
Smalt, blue ordinary	"	.14
Best.....	"	.25
Chem. pure.....	"	5.00
Copperas.....100 lbs.		.60@.62½
Copper—Carbonate.....	lb.	.18@.20
Chloride.....	"	.25
Nitrate, crystals.....	"	.35
Oxide.....	"	.19@.20
Cream of Tarter—crys.	"	.23½
Granulated.....	"	.24
Powdered	"	.23½@.24
Cryolite.....	"	.06½
Explosives—		
Blasting powder, A.....	"	.10¾
Blasting powder, B.....	"	.05@.05½
"Rackarock," A.....	"	.25
"Rackarock," B.....	"	.18
Judson R.R. powder....	"	.10
Dynamite, (40% nitro-glycerine).....	"	.15
(50% nitro-glycerine)..	"	.17
(60% nitro-glycerine)..	"	.19
(75% nitro-glycerine)..	"	.23
Glycerine for nitro (32 2-10° Be.).....	"	.11@.11¼
Nitro-Benzole.....	"	.14@.15
Feldspar—Ground.....sh. ton		6.50@7.75
Flint—(See Silica).		
Fluorspar—Am. lump..	"	6.50@7.00
Gravel.....	"	6.00
Crushed.....	"	6.00
Ground.....	"	10.50@11.00
Foreign, lump.....	"	8.00@12.00
Ground.....	"	11.50@14.00
Fuller's Earth—Lump.100 lbs.		.75
Powdered.....	"	.85
Graphite—(See Plumbago).		
Gypsum—		
Am. gr'd (terra alba)...sh. ton		8.00
Fertilizer.....	"	7.00
Rock.....lg. ton		4.00
English and French.....	"	14.00@16.00
Infusorial Earth—Ground.		
American, best.....	"	20.00
French.....	"	37.50
German.....	"	40.00
Iodine—Crude.....100 lbs.		2.45
Resublimed.....	"	2.85
Iron—Chromate.....	lb.	.03@.10
Muriate	"	.05
Nitrate, com'l.....	"	.01¼@.01¾
True.....	"	.04
Oxide.....	"	.02@.12
Scale.....	"	.01@.03
Kaolin—(See Clay, China).		
Kryolith—(See Cryolite.)		
Lead—Acetate, white, b'k'n lb.		.07¼
Com'l, broken.....	"	.06¼
White, gran.....	"	.08¼
Nitrate, com'l.....	"	.06½@.06¾
Chem. pure.....	"	.35
Lime—Bldg., ab. 250 lbs	bbl.	.65@.75
Finishing.....	lb.	.75@.80
Magnesite—		
Crude, lump (95%) Greece lg. ton		7.00
German (85%)..... "		12.00
Calcined, 600° C. (Greece)sh. ton		17.50
1,000° C. (Greece) "		19.50
3,000° F. (Greece)..lg. ton		30.00
Domestic, soft.....sh. ton		12.00@15.00
Bricks, all magnesite.. M.		185 00
Magnesite and chrome. "		226.00
Magnesium—		
Metallic, ingots (Ger)..	kg.	5.95@6.90
Powdered (Ger.).....	"	6.19
Ribbon or wire (Ger.).	"	10.00
Carbonate.....	lb.	.10
Chloride, com'l.....	"	01¾
Fused.....	"	.20
Oxide.....	"	.60
Manganese—Crude, pow'd		
70@75% binoxide....	"	.01¼@.01½
75@85% binoxide....	"	.01½@.02½
85@90% binoxide....	"	.02½@.03¼
90@95% binoxide....	"	.02¾@.05½
Carbonate.....	"	.16@.20
Chloride.....	"	.04
Ore, 50%.....	unit	.22@.22½
Marble—Flour .....sh. ton		5.50@8.00

Mercury—Bichloride....	Cust. Meas. lb.	Price. .59@.60
Bisulphate.....	"	.41
Mica—N. Y. gr'nd, coarse	"	.04@.05
Fine.....	"	.06@.08
Sheets, 1½x3 in.....	"	.60
8x10 in.....	"	13.00
Mineral Wool—F. o. b.		
Stanhope, N. J.:		
Slag, ordinary.....100 lbs.		1.00
Selected.....	"	1.67
Extra.....	"	4.00
Rock, ordinary.....sh. ton		37.00
Selected.....100 lbs.		4.00
Extra.....	"	7.00
Monazite—92%.....sh. ton		140.00
Nickel—Oxide, bl'k No. 1	lb.	1.00
Black No. 2.....	"	.60
Green, No. 1.....	"	1.00
No. 2.....	"	.60
Oils—		
Black, reduced 29 gr.:		
25@30 cold test.....	gal.	.07@.07½
15.....	"	.08@.08½
Zero.....	"	.11@12
Summer.....	"	.06½@.07
Smith's Ferry, 33@34 gr.	"	.07½@.08½
West Virginia, 29 gr....	"	.22@.24
Cylinder, dark steam ref	"	.08@.13
Dark filtered.....	"	.11@.16
Light filtered.....	"	.13@.15½
Extra cold test.....	"	.21@.25
Gasolene, 86°@88°.....	"	.14@.16
90°.....	"	.19@.20
Neutral filtered, lemon,		
33@34 gr.....	"	.13@.18½
White, 33@34 gr.....	"	.21@.33
Wool grade, 32 gr....	"	.11@.14
Naphtha, crude, 68@72°	"	.10
Deodorized.....	"	.10½
Paraffine, high viscosity	"	.20@.25
903-907 sp. gr	"	.09¼@.09½
903 sp. gr.....	"	.08¼@.08½
883 "	"	.07½@.07¾
865@875 sp. gr.....	"	.07¼@.07½
Red No. 1.....	"	.08¾@.09¼
No. 2.....	"	.08¼@.08¾
Linseed, domestic raw..	"	.36@.39
Boiled.....	"	41@.42
Calcutta, raw.....	"	.54
Graphite, lubricating,		
Am. dry.....	lb.	.10
In oil.....	"	.12
Axle grease.....	"	.08½@.10
Wood grease.....	"	.05@.06
Ozokerite—Foreign	"	.06@.08
Paints and Colors—		
Benzine, Sumatra.....	"	.35@.40
Marbled.....	"	.27@.28
Chrome green, common	"	.05@.06
Extra.....	"	.12@.15
Chem. pure.....	"	.20@.30
Super.....	"	.10@.12
Yellow, common.....	"	.10
Best.....	"	.25
Silica Graphite, thick..	"	.12
Thinned.....	gal.	1.15
Lampblack—Com'l.....	lb.	.03@.05
Refined.....	"	.08@.10
Calcined.....	"	.12@.20
Fine spirit.....	"	.20@.35
Litharge, Am. powd..	"	.05½@.05¾
English flake.....	"	.07¾@.08
Metallic, brown.....sh. ton		16.00@20.00
Red.....	"	16.00@20.00
Ocher, Am. common....	"	9.25@10.00
Best.....	"	21.25@25.00
Dutch, washed.....	lb.	.04¾@.05
French, washed.....	"	.01¼@.02½
Orange mineral, Am...	"	.07¾@.08¼
Foreign, as to make..	"	.08½@.11
Paris green, pure.....	"	.12@.14
Red lead, American.....	"	.05¼@.05¾
Foreign	"	.07½@.08
Shellac, "D. C.".....	"	.27@.30
Native.....	"	.17@.18
Turpentine, spirits.....	gal.	.44½@.45
Ultramarine, best.....	lb.	.25
Vermilion, Amer. lead..	"	.14@.16
Quicksilver, bulk..	"	.61
Chinese	"	.80@.90
English, imported....	"	.65
Artificial.....	"	.10@.20
White lead, Am., dry...	"	.05@.05½
In oil.....	"	.05¼@.06½
English, in oil.....	"	.07½@.08¾
Whiting, common.....100 lbs.		.40½
Gilders.....	"	.47
Zinc white, Am., ex. dry	lb.	.04¾@.05¼
American, red seal...	"	.07½@.08
Green seal.....	"	.08@.08½
Foreign, red seal, dry	"	.07@.08½
Green seal, dry.....	"	.07½@.08½
Foreign, red seal, in oil	"	.10½@.11¼
Green seal, in oil...	"	.11¾@.12½
Plumbago—Am., pulv., f.o.b.,		
Providence, R. I....sh. ton		30.00
Lump..... "		8.00
German, lump.....100 lbs.		1.50@2.00
Pulverized..... "		2.25
Ceylon, pulv. common.	lb	.03¾
Best.....	"	.05@.08
Italian, pulv.....	"	.01¼
Potash—Caustic.....	"	.04@.05
Potassium—		
Metallic, in balls (Ger)..	kg.	17.85
Bicarbonate cryst.....	lb.	.08½
Powdered or gran....	"	.12
Bichromate.....	"	.09¾
Bromide, ...	"	.46
Carbonate.....	"	.02¾@.03½
Chromate	"	.35
Cyanide (98@99%).....	"	.28@.30
Permanganate, pure cr.	"	.14@.15
Silicate.....	"	.06
Prussiate, yellow.....	"	.16½@.17½
Red.....	"	.37@.40

Potassium—	Cust. Meas.	Price.
Sulphide, com'l.....	lb.	.10
Quartz—(See Silica).		
Rosin—Common.....	bbl.	1.30
Best.....	"	2.65
Salt—N.Y. com. fine abt.		
380 lbs.....	bbl.	.70
N. Y. agricultural.....sh. ton		1.50
N. Y. coarse..... "		2.30
N. Y. dairy and table... "		2.90
Saltpeter—Crude.....100 lbs.		3.80@3.85
Refined..... "		4.25@5.50
Silica—		
Ground quartz, ord....sh. ton		6.00@8.00
Best..... "		12.00
Lump quartz..... "		2.50@4.00
Fire bricks (Blue Welch) M.		35.00
Silver—Chloride..... oz.		.65
Nitrate..... "		.41@.42½
Oxide..... "		.85@1.10
Sodium—Metallic..... lb.		.75
Acetate, com'l..... "		.08½
Bichromate..... "		.07¾
Bisulphite, com'l..... "		.01½
Bromide ..... "		.49@.50
Chlorate, com'l..... "		.09¾@.10
Hyposulphite.....100 lbs.		1.60@1.70
Nitrite..... lb.		.07½@.07¾
Peroxide..... "		.45
Phosphate..... "		.03
Triphosphate ..... "		.04
Silicate, conc..... "		.01@.01½
Sulphate, gran., puri'd.		.03
Sulphide.....100 lbs.		1.75
Sulphite..... lb.		.02½
Tungstate, com'l ..... "		.35
Pure..... "		.50
Strontium—Nitrate ..... "		.09@.10
Sulphur—Roll.....100 lbs.		1.70
Flour..... "		1.80@1.85
Flowers, sublimed... "		2.00
Talc—N. C No. 1.....sh. ton		15.00@15.50
No. 2..... "		10.00@12.00
N. Y., Fibrous..... "		8.00@9.00
French, best..... "		20.00
Italian,..... "		20.00@30.00
Tar—Coal..... bbl.		3.00
Tin—Chloride ..... lb.		.11@.13
Crystals..... "		.22@.23
Muriate..... "		.06
Oxide, white, ch. pure.. "		.36@.40
Uranium—Oxide..... "		1.80@2.00
Zinc—Metallic, ch. pure.. "		.09@.10
Carbonate..... "		.15
Chloride ..... "		.06@.08
Dust..... "		.07@.07¼
Sulphate..... "		.02½

THE RARE ELEMENTS.

Prices given are at makers' works in Germany, unless otherwise noted.

	Cust. Meas.	Price.
Barium—Amalgam..... grm.		$1.19
Electrol..... "		5 71
Beryllium—Powder..... "		5.95
Crystals..... "		9.04
Nitrate (N. Y.)..... oz.		2.50
Boron—Amorphous, pure grm		.19
Crystals, pure..... "		1.43
Nitrate (N. Y.)..... lb.		1.50
Calcium—Electrol..... "		4.28
Cerium—Fused.....grm.		2.02
Nitrate (N. Y.)..... lb.		21.00
Chromium—Fused..... kg.		5.95
Pure powder 95%..... "		1.79
Chem. pure cryst..... grm.		.21
Cobalt—(98@99%)..... kg.		5.35@5.71
Pure..... "		30.94
Didymium—Powder..... grm.		3.81
Nitrate (N. Y.)..... oz.		4.00
Erbium ..... grm.		3.09
Nitrate (N. Y.)..... oz.		3.00
Gallium..... grain		9.52
Germanium—Powder.... grm.		33.32
Fused..... "		35.70
Glucinum—Powder..... "		5.95
Crystals..... "		9.04
Nitrate (N. Y.)..... oz.		2.50
Indium..... grm		4.05
Iridium—..... "		2.38
Lanthanum—Powder.... "		4.28
Electrol, in balls ..... "		9.04
Nitrate (N. Y.)..... oz.		3.50
Lithium..... grm.		2.38
Nitrate (N. Y.)..... oz.		.60
Molybdenum—Powder... kg.		2.62
Fused, electrol 95%.....100 grms.		15.47
Niobium..... grm.		3.81
Osmium..... "		.95
Palladium..... "		.95
Rhodium..... "		2.87
Rubidium—Pure..... "		4.76
Ruthenium—Pure powd "		2.38
Selenium—Com'l powder kg		30.94
Sublimed powder..... "		40.46
Sticks..... "		33.32
Silicium—Amorphous....100 grms.		2.87
Crystals, pure..... "		5.95
Strontium—Electrol..... grm.		6.19
Tantalium—Pure..... "		3.57
Tellurium—Ch. p. sticks.100 grms.		11.90
Powder..... "		9.52
Thallium ..... kg.		23.80
Thorium—Metallic.....grm.		7.85
Nitrate 49@50% (N. Y.).. lb.		5.00@5.50
Titanium ..... grm.		.71
Uranium..... "		.48
Nitrate (N. Y.)..... oz.		.25
Vanadium—Fused.....grm.		1.19
Wolfram—Fused.....100 grms.		23.80
Powder, 95@98%..... kg.		1.90
Chem. pure..... "		6.42
Yttrium..... grm.		3.33
Nitrate (N. Y.)..... oz.		4.00
Zirconium—Com'l..... kg.		119.00
Pure..... grm.		.71
Nitrate (N. Y.)..... oz.		1.00

NOTE.—These quotations are for wholesale lots in New York unless otherwise specified, and are generally subject to the usual trade discounts. This table is revised up to June 16th. Readers of the ENGINEERING AND MINING JOURNAL are requested to report any corrections needed, or to suggest additions which they may consider advisable. See also Market Review of Chemicals and Minerals.